

**SKEPTIC
ZONE**



**THINKING CAPS
MUST BE WORN
IN THIS AREA**

The
Podcast
from
Australia
for
Science
and
Reason

www.skepticzone.tv

1
00:00:13,180 --> 00:00:09,500
welcome to the skeptic zone the podcast

2
00:00:16,839 --> 00:00:13,190
from Australia for science and reason

3
00:00:20,460 --> 00:00:16,849
urea hosts Richard Saunders and Stefan

4
00:00:26,080 --> 00:00:23,740
Richard that theme song just delights me

5
00:00:28,029 --> 00:00:26,090
every time I hear it for either for some

6
00:00:29,950 --> 00:00:28,039
unknown reason welcome to the skeptic

7
00:00:32,170 --> 00:00:29,960
zone again Stefan I love listening to

8
00:00:34,060 --> 00:00:32,180
our theme song I tell you what let's all

9
00:00:35,200 --> 00:00:34,070
hear it again now let's not oh no they

10
00:00:36,910 --> 00:00:35,210
just went to the end of the show you'll

11
00:00:39,460 --> 00:00:36,920
get a good dose of it later it's great

12
00:00:41,860 --> 00:00:39,470
to be back again so number six already

13
00:00:43,930 --> 00:00:41,870

or six for the 21st of November where

14

00:00:45,759 --> 00:00:43,940

did the time fly toos ah and it's almost

15

00:00:48,729 --> 00:00:45,769

Christmas and everything it's just this

16

00:00:51,280 --> 00:00:48,739

is the year just as a just gone by in a

17

00:00:53,200 --> 00:00:51,290

cosmic blink of an eye and the cosmic

18

00:00:55,299 --> 00:00:53,210

click and the blink of it cause you know

19

00:00:57,790 --> 00:00:55,309

so that we're in for another huge

20

00:00:59,290 --> 00:00:57,800

episode want a skeptical feast of

21

00:01:01,750 --> 00:00:59,300

skeptical goodies we've got for you

22

00:01:03,160 --> 00:01:01,760

today Kylie Sturgis our reporter in

23

00:01:07,300 --> 00:01:03,170

Western Australia caught up with dr.

24

00:01:08,770 --> 00:01:07,310

Cole cause an esky doctor Congress you

25

00:01:09,999 --> 00:01:08,780

say that again Richard just just for

26

00:01:14,980 --> 00:01:10,009

those the first people who don't know

27

00:01:16,510 --> 00:01:14,990

the guys name dr. coral hi dr. Carl you

28

00:01:18,219 --> 00:01:16,520

know who you were talking about very

29

00:01:20,410 --> 00:01:18,229

famous scientist here and i'll stop the

30

00:01:22,419 --> 00:01:20,420

car dr. card everybody knows him as dr.

31

00:01:25,690 --> 00:01:22,429

Carter top bloke he's got a new book out

32

00:01:27,130 --> 00:01:25,700

called science is golden Oh is what's

33

00:01:29,229 --> 00:01:27,140

the do you know the angle of the yellow

34

00:01:30,790 --> 00:01:29,239

we have to wait I find iron so he talks

35

00:01:32,440 --> 00:01:30,800

about the large hadron collider and

36

00:01:33,910 --> 00:01:32,450

things like that that's fun we haven't

37

00:01:35,770 --> 00:01:33,920

disappeared into a black hole yet not

38

00:01:37,089 --> 00:01:35,780

yet i don't think they haven't started

39

00:01:38,979 --> 00:01:37,099

but didn't have like a bit of a hold up

40

00:01:40,120 --> 00:01:38,989

with ya piece of the starting it's not

41

00:01:42,370 --> 00:01:40,130

something like that they forgot to

42

00:01:44,050 --> 00:01:42,380

replace the battery and i'll plug it in

43

00:01:46,180 --> 00:01:44,060

but dr. Cole tell us all about that in

44

00:01:48,130 --> 00:01:46,190

an interview and excellent a big big

45

00:01:50,320 --> 00:01:48,140

interview we've got em in our regular

46

00:01:52,869 --> 00:01:50,330

section dr. H E reports with Rachel them

47

00:01:54,550 --> 00:01:52,879

up she interviews dr. Steve novella from

48

00:01:57,339 --> 00:01:54,560

the skeptics guide to the universe Oh

49

00:01:59,199 --> 00:01:57,349

wonderful one not only is not only Steve

50

00:02:01,180 --> 00:01:59,209

also but Rachel's even more awesome I

51
00:02:02,859 --> 00:02:01,190
think so too absolutely and she does a

52
00:02:05,109 --> 00:02:02,869
great interview and they are they're

53
00:02:06,850 --> 00:02:05,119
great show to other then they're like we

54
00:02:09,580 --> 00:02:06,860
were kind of aspiring to be like really

55
00:02:10,930 --> 00:02:09,590
mad we can only aspire a nice size guide

56
00:02:13,510 --> 00:02:10,940
to the universe snapping at their heels

57
00:02:15,400 --> 00:02:13,520
look out there but that'll be great

58
00:02:16,690 --> 00:02:15,410
that's the feature of today's episode a

59
00:02:19,290 --> 00:02:16,700
great interview of diversity and of

60
00:02:21,910 --> 00:02:19,300
Steve novella then our think tank today

61
00:02:24,850 --> 00:02:21,920
hmm some of us went to the mind body

62
00:02:26,559 --> 00:02:24,860
spirit or mind-body wallet yes now what

63
00:02:27,350 --> 00:02:26,569

are you be would have had a bit of fun

64

00:02:30,200 --> 00:02:27,360

there

65

00:02:31,760 --> 00:02:30,210

fun and afterwards we went to Chinatown

66

00:02:34,130 --> 00:02:31,770

to have some dinner and talk about our

67

00:02:36,380 --> 00:02:34,140

adventures at the skeptics the think

68

00:02:38,840 --> 00:02:36,390

tank for the thing to think jacket is

69

00:02:41,030 --> 00:02:38,850

that mind-body wallet and experience and

70

00:02:43,430 --> 00:02:41,040

a half oh you're all your shark was just

71

00:02:45,530 --> 00:02:43,440

line up you just get reiki dude it's

72

00:02:47,600 --> 00:02:45,540

it's just you know the Kundalini just

73

00:02:50,210 --> 00:02:47,610

kind of uncoils and recoils in horror

74

00:02:52,430 --> 00:02:50,220

it's just amazing I could not prevent of

75

00:02:54,770 --> 00:02:52,440

myself Stefan for those of you don't

76
00:02:56,780 --> 00:02:54,780
know this is like every six months here

77
00:02:59,510 --> 00:02:56,790
and said you have a new age fair far

78
00:03:00,980 --> 00:02:59,520
four days have basically open your

79
00:03:02,900 --> 00:03:00,990
wallets and repeat after me help

80
00:03:04,760 --> 00:03:02,910
yourself yes help you help though so

81
00:03:06,890 --> 00:03:04,770
it's it's awesome that that's an amazing

82
00:03:09,590 --> 00:03:06,900
would last time I went there they had a

83
00:03:13,160 --> 00:03:09,600
they had a Walkman that you put on and

84
00:03:17,150 --> 00:03:13,170
you blast yourself with music and that

85
00:03:19,310 --> 00:03:17,160
will cure deafness it was amazing create

86
00:03:21,680 --> 00:03:19,320
stiffness yeah well I cranked up some of

87
00:03:23,210 --> 00:03:21,690
some hardcore death metal India I was it

88
00:03:25,550 --> 00:03:23,220

was fantastic didn't do in fact some of

89
00:03:28,550 --> 00:03:25,560
our listeners may remember seeing you do

90
00:03:30,260 --> 00:03:28,560
that on the old the tank vodka ah that

91
00:03:31,940 --> 00:03:30,270
was a lot of fun but but this time you

92
00:03:33,890 --> 00:03:31,950
had another great tour of the whole yeah

93
00:03:36,020 --> 00:03:33,900
and a few people recognize me which was

94
00:03:38,360 --> 00:03:36,030
quite did they oh because I've been on

95
00:03:39,890 --> 00:03:38,370
your little expert on the on the TV

96
00:03:43,370 --> 00:03:39,900
recently in Australia and a few people

97
00:03:45,800 --> 00:03:43,380
looked at me said Mr genetic you like

98
00:03:48,170 --> 00:03:45,810
that you know that surprise I let you in

99
00:03:50,180 --> 00:03:48,180
so was there anything uh really kind of

100
00:03:52,340 --> 00:03:50,190
different this year's are just the same

101

00:03:55,070 --> 00:03:52,350

old stuff and someone can really new

102

00:03:56,630 --> 00:03:55,080

like some phenomenal new metaphysical

103

00:03:58,850 --> 00:03:56,640

treat me if they all say that every year

104

00:04:00,289 --> 00:03:58,860

oh it's the same old I don't rehash and

105

00:04:02,479 --> 00:04:00,299

given a slightly different label and

106

00:04:04,070 --> 00:04:02,489

away we go again yeah well speaking away

107

00:04:05,660 --> 00:04:04,080

we go I think we should get stuck

108

00:04:07,430 --> 00:04:05,670

straight into it why don't we get into

109

00:04:15,160 --> 00:04:07,440

the show Steph what a great idea skipped

110

00:04:20,229 --> 00:04:18,069

dr. carl kruger Netsky is best known as

111

00:04:22,690 --> 00:04:20,239

an Australian ambassador for science and

112

00:04:23,920 --> 00:04:22,700

science communication is the Julia

113

00:04:26,050 --> 00:04:23,930

Sumner mellow fellow at the University

114

00:04:27,909 --> 00:04:26,060
of Sydney and holds degrees in

115

00:04:30,129 --> 00:04:27,919
mathematics biomedical engineering

116

00:04:32,260 --> 00:04:30,139
medicine and surgery and he has also

117

00:04:34,480 --> 00:04:32,270
studied some astrophysics computer

118

00:04:36,850 --> 00:04:34,490
science and philosophy he began his

119

00:04:39,310 --> 00:04:36,860
media career in the 1980s with his radio

120

00:04:41,230 --> 00:04:39,320
show great moments in science and has

121

00:04:43,690 --> 00:04:41,240
since contributed via radio print

122

00:04:45,970 --> 00:04:43,700
podcasts and even TV shows to our

123

00:04:49,360 --> 00:04:45,980
understanding of science he even won an

124

00:04:51,790 --> 00:04:49,370
ignoble prize in 2002 for his study into

125

00:04:54,159 --> 00:04:51,800
bellybutton fluff dr. Cole is now the

126

00:04:56,409 --> 00:04:54,169

author of 27 books that investigate

127

00:04:58,629 --> 00:04:56,419

science facts and science myths designed

128

00:05:01,210 --> 00:04:58,639

for all ages his most recent book is

129

00:05:03,070 --> 00:05:01,220

called science is golden I caught up

130

00:05:05,080 --> 00:05:03,080

with dr. Karl as he was doing his

131

00:05:06,940 --> 00:05:05,090

australia-wide tour for the book science

132

00:05:08,980 --> 00:05:06,950

is golden and he had a lot to say about

133

00:05:11,290 --> 00:05:08,990

his short-lived political career for

134

00:05:13,240 --> 00:05:11,300

climate change coalition religion the

135

00:05:16,659 --> 00:05:13,250

Large Hadron Collider the return of the

136

00:05:18,430 --> 00:05:16,669

TV show sleek geeks for 2009 and he even

137

00:05:23,830 --> 00:05:18,440

had some advice for budding science

138

00:05:25,810 --> 00:05:23,840

communicators and here i am at one of

139

00:05:28,090 --> 00:05:25,820

the many book signings that dr. karl is

140

00:05:29,980 --> 00:05:28,100

doing for his new book science is golden

141

00:05:31,870 --> 00:05:29,990

and I must admit as soon as I heard that

142

00:05:33,610 --> 00:05:31,880

it was out I ran out and grabbed a copy

143

00:05:35,230 --> 00:05:33,620

and one of the things that struck me is

144

00:05:36,850 --> 00:05:35,240

that once again you were getting into

145

00:05:39,100 --> 00:05:36,860

skepticism you mentioned the wonderful

146

00:05:41,400 --> 00:05:39,110

link le in you're born in regards to

147

00:05:43,870 --> 00:05:41,410

light as a feather stiff as a board I

148

00:05:45,880 --> 00:05:43,880

admired in Kelly's work I love her book

149

00:05:47,860 --> 00:05:45,890

she does a wonderful wonderful job of

150

00:05:49,090 --> 00:05:47,870

writing she's really inspiring and I

151
00:05:52,180 --> 00:05:49,100
like the way that she actually goes out

152
00:05:53,830 --> 00:05:52,190
and does the demos in public and that's

153
00:05:56,110 --> 00:05:53,840
a really hard thing to do be it up for

154
00:05:59,409 --> 00:05:56,120
dr. Lynn I say it was one of the things

155
00:06:01,090 --> 00:05:59,419
that was featured in sleek geeks going

156
00:06:03,610 --> 00:06:01,100
out and actually doing demos and you

157
00:06:05,740 --> 00:06:03,620
tackled some of the skeptical issues out

158
00:06:07,779 --> 00:06:05,750
there like fire walking for example will

159
00:06:09,760 --> 00:06:07,789
we ever have another sweet gig show out

160
00:06:11,290 --> 00:06:09,770
there do you think and we're negotiating

161
00:06:13,210 --> 00:06:11,300
with the ABC right now and we should

162
00:06:14,010 --> 00:06:13,220
have a happy ending shortly we've got to

163
00:06:16,320 --> 00:06:14,020

do it in the

164

00:06:17,730 --> 00:06:16,330

power of two double o nine because I'm

165

00:06:21,210 --> 00:06:17,740

going down the inducting in a couple of

166

00:06:23,249 --> 00:06:21,220

in about a month and then in middle to

167

00:06:24,809 --> 00:06:23,259

double 09 I'm going on the religious

168

00:06:28,200 --> 00:06:24,819

pilgrimage walk and we'll probably come

169

00:06:30,210 --> 00:06:28,210

back able to survive on photosynthesis

170

00:06:31,890 --> 00:06:30,220

surrounded by an ethereal green glow and

171

00:06:33,659 --> 00:06:31,900

no longer needing to eat food things

172

00:06:35,790 --> 00:06:33,669

more religious enlightenment so it has

173

00:06:37,499 --> 00:06:35,800

to be done between the Antarctica before

174

00:06:40,770 --> 00:06:37,509

the religious pilgrimage in Spain the El

175

00:06:42,420 --> 00:06:40,780

Camino del Santiago pilgrim warmer that

176
00:06:44,610 --> 00:06:42,430
is incredible I know that on a earlier

177
00:06:45,980 --> 00:06:44,620
skeptic ality interview with Mike McCray

178
00:06:49,170 --> 00:06:45,990
you mentioned the division between

179
00:06:51,149 --> 00:06:49,180
religion faith and science and how the

180
00:06:52,680 --> 00:06:51,159
two of them can co-exist together in

181
00:06:54,360 --> 00:06:52,690
your mind in fact I recall that you

182
00:06:56,520 --> 00:06:54,370
mentioned Lori peak of the University of

183
00:06:58,860 --> 00:06:56,530
Sydney as being a man who has religious

184
00:07:00,779 --> 00:06:58,870
faith and yet works in science is this

185
00:07:02,969 --> 00:07:00,789
perhaps one of your ways of tackling

186
00:07:04,140 --> 00:07:02,979
this and demonstrating that the two of

187
00:07:06,110 --> 00:07:04,150
them are separate or do you have another

188
00:07:09,959 --> 00:07:06,120

message in regards to this investigation

189

00:07:12,240 --> 00:07:09,969

in my case I could be wrong though I see

190

00:07:14,730 --> 00:07:12,250

religion and science is being separate

191

00:07:17,629 --> 00:07:14,740

unlinked orthogonal in no way related in

192

00:07:21,570 --> 00:07:17,639

the same way that wearing red shirts and

193

00:07:24,300 --> 00:07:21,580

a like of curries are completely

194

00:07:26,279 --> 00:07:24,310

unrelated and for the life of me in the

195

00:07:29,100 --> 00:07:26,289

United States I cannot see why is such a

196

00:07:33,089 --> 00:07:29,110

high percentage of the population see a

197

00:07:36,120 --> 00:07:33,099

conflict between evolution and the rest

198

00:07:37,200 --> 00:07:36,130

of their normal religious belief because

199

00:07:39,779 --> 00:07:37,210

there's so many people who don't have

200

00:07:42,029 --> 00:07:39,789

any problems at all with evolution why

201
00:07:45,510 --> 00:07:42,039
they picked on this obscure topic wasn't

202
00:07:47,040 --> 00:07:45,520
they pick on electrochemistry or so if

203
00:07:49,230 --> 00:07:47,050
you want to pick on something as a bit

204
00:07:51,209 --> 00:07:49,240
counterintuitive and weird go for

205
00:07:52,530 --> 00:07:51,219
quantum physics pick on that one rather

206
00:07:55,320 --> 00:07:52,540
than being

207
00:07:57,360 --> 00:07:55,330
than poor old evolution oh there we go

208
00:07:58,890 --> 00:07:57,370
we just had a massive rush of people who

209
00:08:01,590 --> 00:07:58,900
came over and bought dozens of books

210
00:08:03,720 --> 00:08:01,600
mostly women I noticed and I imagined

211
00:08:05,160 --> 00:08:03,730
the audience has quite a broad range but

212
00:08:06,570 --> 00:08:05,170
there seems to be a lot of mums getting

213
00:08:08,970 --> 00:08:06,580

the books for kids and you mentioned

214

00:08:11,460 --> 00:08:08,980

yourself just talking about the books to

215

00:08:13,140 --> 00:08:11,470

a few of the buyers that you have a sort

216

00:08:14,880 --> 00:08:13,150

of an age range recommendation and yet

217

00:08:17,370 --> 00:08:14,890

they're applicable to all ages in many

218

00:08:19,110 --> 00:08:17,380

ways only in most cases my books would

219

00:08:20,040 --> 00:08:19,120

be suitable for an eight a smart

220

00:08:21,390 --> 00:08:20,050

eight-year-old or an average

221

00:08:25,020 --> 00:08:21,400

ten-year-old and all the way up until

222

00:08:26,820 --> 00:08:25,030

they drop dead and I guess that's pretty

223

00:08:28,470 --> 00:08:26,830

useful considering that you tackle so

224

00:08:30,060 --> 00:08:28,480

many recent topics in this new books

225

00:08:31,680 --> 00:08:30,070

such as the Large Hadron Collider for

226

00:08:33,510 --> 00:08:31,690

example and that's one of the things

227

00:08:35,580 --> 00:08:33,520

that people have a lot of concern about

228

00:08:37,290 --> 00:08:35,590

a lot of interesting but we might not

229

00:08:39,659 --> 00:08:37,300

know much about how did you get such

230

00:08:43,080 --> 00:08:39,669

complex topics down into such easy

231

00:08:46,980 --> 00:08:43,090

bite-sized pieces each story takes me 20

232

00:08:49,380 --> 00:08:46,990

hours to write so I have to turn to our

233

00:08:52,110 --> 00:08:49,390

right he's off Pete on topic and I spend

234

00:08:54,060 --> 00:08:52,120

a total of twenty hours gathering

235

00:08:55,680 --> 00:08:54,070

together on average fifty thousand words

236

00:08:57,660 --> 00:08:55,690

of material reading it on a computer

237

00:09:00,720 --> 00:08:57,670

screen mostly from peer-reviewed sources

238

00:09:02,070 --> 00:09:00,730

and also books I then read it having had

239

00:09:04,110 --> 00:09:02,080

a quick scan on a computer screen and I

240

00:09:06,300 --> 00:09:04,120

print all off and then make a pile about

241

00:09:08,910 --> 00:09:06,310

two centimeters thick then I read it

242

00:09:11,820 --> 00:09:08,920

underlying everything once then already

243

00:09:13,400 --> 00:09:11,830

gained and then summarize it and then

244

00:09:16,040 --> 00:09:13,410

finally

245

00:09:17,389 --> 00:09:16,050

I was all loaded in my brain I sit down

246

00:09:19,100 --> 00:09:17,399

the computer and start writing and

247

00:09:22,069 --> 00:09:19,110

referring back to it and from that I

248

00:09:24,619 --> 00:09:22,079

write the original 500 word story and

249

00:09:27,800 --> 00:09:24,629

then later I'll sit in my brain and

250

00:09:29,540 --> 00:09:27,810

expand up to a 700 word story and then

251

00:09:31,309 --> 00:09:29,550

finally I bring up to about 1,200 was

252

00:09:34,309 --> 00:09:31,319

always trying to keep it as short and

253

00:09:35,689 --> 00:09:34,319

succinct as possible and with the

254

00:09:37,970 --> 00:09:35,699

portion of failed with the Large Hadron

255

00:09:39,019 --> 00:09:37,980

Collider that one expanded to 10,000

256

00:09:40,819 --> 00:09:39,029

words they chopped it back to about

257

00:09:42,259 --> 00:09:40,829

eight I couldn't help because it's just

258

00:09:44,900 --> 00:09:42,269

I mean if you talk about the structure

259

00:09:46,490 --> 00:09:44,910

of matter it is possible there are some

260

00:09:48,740 --> 00:09:46,500

things you cannot deal with in 500 words

261

00:09:50,480 --> 00:09:48,750

I guess in many ways that's

262

00:09:52,069 --> 00:09:50,490

demonstrating a sort of respect besides

263

00:09:54,019 --> 00:09:52,079

because some things are immensely

264

00:09:56,179 --> 00:09:54,029

complicated and to be able to break it

265

00:09:58,579 --> 00:09:56,189

down is is a big big challenge when you

266

00:10:00,139 --> 00:09:58,589

decide to mention it well when are we

267

00:10:02,569 --> 00:10:00,149

going to V they say look now summarize

268

00:10:04,309 --> 00:10:02,579

this into 15 seconds and my answer to

269

00:10:05,840 --> 00:10:04,319

that is suppose you've been to a doctor

270

00:10:08,150 --> 00:10:05,850

and you've been diagnosed with the

271

00:10:10,429 --> 00:10:08,160

cancer or something do you want 15

272

00:10:11,960 --> 00:10:10,439

seconds or do you want more yeah I guess

273

00:10:14,150 --> 00:10:11,970

that little challenge that you mentioned

274

00:10:16,970 --> 00:10:14,160

there about Margaret Thatcher collecting

275

00:10:18,650 --> 00:10:16,980

people being a one-page winner for

276

00:10:21,319 --> 00:10:18,660

explaining what particular topic was it

277

00:10:25,160 --> 00:10:21,329

that was for the Higgs boson yes so when

278

00:10:26,689 --> 00:10:25,170

matter was created it had no mass so

279

00:10:28,670 --> 00:10:26,699

there's a big bang everything's too hot

280

00:10:31,759 --> 00:10:28,680

stuff kills downturns in the matter

281

00:10:33,829 --> 00:10:31,769

matter had no mass but as it moved

282

00:10:35,780 --> 00:10:33,839

through the Higgs field so goes the

283

00:10:37,490 --> 00:10:35,790

current theory it picked up mass

284

00:10:39,290 --> 00:10:37,500

different amounts of mass depending what

285

00:10:41,660 --> 00:10:39,300

sort of particle is the Higgs party the

286

00:10:44,660 --> 00:10:41,670

Higgs field itself is quite different

287

00:10:47,090 --> 00:10:44,670

from gravity electromagnetic electric

288

00:10:48,920 --> 00:10:47,100

fields in the sense that it has the same

289

00:10:50,509 --> 00:10:48,930

value everywhere through the universe I

290

00:10:53,660 --> 00:10:50,519

find the whole thing very exciting

291

00:10:58,160 --> 00:10:53,670

because if we can understand the mass

292

00:10:59,629 --> 00:10:58,170

then we can actually remove mass so to

293

00:11:01,340 --> 00:10:59,639

get the space is twenty thousand dollars

294

00:11:03,530 --> 00:11:01,350

per kilogram if you get something like a

295

00:11:06,590 --> 00:11:03,540

supertanker and removes mass you get

296

00:11:07,020 --> 00:11:06,600

into space very cheaply and then if it

297

00:11:09,240 --> 00:11:07,030

has

298

00:11:11,160 --> 00:11:09,250

you can get the speed of light and get

299

00:11:12,990 --> 00:11:11,170

off the nearest stars and it's very

300

00:11:15,810 --> 00:11:13,000

exciting because right now we've just

301
00:11:20,060 --> 00:11:15,820
discovered we've made it just now the

302
00:11:24,810 --> 00:11:20,070
first actual photographs of three stars

303
00:11:27,480 --> 00:11:24,820
around a nother sorry first photograph

304
00:11:29,670 --> 00:11:27,490
of three planets around another star and

305
00:11:31,740 --> 00:11:29,680
our technology is advancing to the stage

306
00:11:34,320 --> 00:11:31,750
that we've discovered 300 planets around

307
00:11:36,540 --> 00:11:34,330
other stars in about four years we'll

308
00:11:38,730 --> 00:11:36,550
get to the stage of finding earth-sized

309
00:11:40,800 --> 00:11:38,740
planets the moment smalls we go for is

310
00:11:42,840 --> 00:11:40,810
about five or seven times the size and

311
00:11:44,430 --> 00:11:42,850
then another four years after that say

312
00:11:46,890 --> 00:11:44,440
eight years from now we'll be able to

313
00:11:52,830 --> 00:11:46,900

discover earthside earth-sized planets

314

00:11:54,570 --> 00:11:52,840

in the habitable zone around stars but

315

00:11:57,530 --> 00:11:54,580

what no way of getting there without

316

00:12:00,180 --> 00:11:57,540

current technology and I'm hoping that

317

00:12:02,190 --> 00:12:00,190

being able to manipulate mass will get

318

00:12:04,380 --> 00:12:02,200

us to the nearest stars and even the

319

00:12:05,850 --> 00:12:04,390

more distant ones speaking of gathering

320

00:12:07,290 --> 00:12:05,860

mass we have more fans around Yousaf

321

00:12:11,850 --> 00:12:07,300

defensible have another break here we go

322

00:12:17,020 --> 00:12:13,810

I'm

323

00:12:18,910 --> 00:12:17,030

well this has just been non-stop people

324

00:12:20,410 --> 00:12:18,920

coming past and signing of just an

325

00:12:22,780 --> 00:12:20,420

observation I noticed that many of them

326

00:12:24,490 --> 00:12:22,790

were women but we were primarily buying

327

00:12:26,080 --> 00:12:24,500

it for husbands or their children I

328

00:12:27,700 --> 00:12:26,090

guess sort of pointing out that science

329

00:12:29,980 --> 00:12:27,710

communication is sort of starting at

330

00:12:32,050 --> 00:12:29,990

home I liked the point that one lady

331

00:12:33,730 --> 00:12:32,060

made about how listening to your show on

332

00:12:36,370 --> 00:12:33,740

the radio prompted a conversation

333

00:12:38,680 --> 00:12:36,380

between herself and her son and how now

334

00:12:40,510 --> 00:12:38,690

she felt more in control certainly in

335

00:12:43,000 --> 00:12:40,520

terms of communicating some of the ideas

336

00:12:44,980 --> 00:12:43,010

because of how you have supported her I

337

00:12:46,630 --> 00:12:44,990

guess by doing that sort of program and

338

00:12:49,000 --> 00:12:46,640

how now she's got a book which says your

339

00:12:50,920 --> 00:12:49,010

mom is always right signed by you well I

340

00:12:55,960 --> 00:12:50,930

did try to make the kid show respect for

341

00:12:58,380 --> 00:12:55,970

their moms and I see my role as sticking

342

00:13:01,360 --> 00:12:58,390

to the facts and ignoring opinions and

343

00:13:03,790 --> 00:13:01,370

the under all that if that's how I do

344

00:13:06,010 --> 00:13:03,800

what I do and the philosophy behind what

345

00:13:09,360 --> 00:13:06,020

I do is to try to liberate people from

346

00:13:12,070 --> 00:13:09,370

what holds them back and in general lies

347

00:13:14,350 --> 00:13:12,080

may occasionally help you get through

348

00:13:15,580 --> 00:13:14,360

life better but in the vast majority of

349

00:13:18,460 --> 00:13:15,590

cases he better off sticking to the

350

00:13:20,700 --> 00:13:18,470

truth I don't know this is much of a

351

00:13:23,290 --> 00:13:20,710

segue but we recently had the u.s.

352

00:13:27,040 --> 00:13:23,300

elections and I know that Obama has now

353

00:13:27,970 --> 00:13:27,050

become the president over there and one

354

00:13:29,800 --> 00:13:27,980

of the things that people have been

355

00:13:32,470 --> 00:13:29,810

saying is that he seems to be a very Pro

356

00:13:34,540 --> 00:13:32,480

science president and I know that your

357

00:13:35,920 --> 00:13:34,550

own efforts in politics included the

358

00:13:39,010 --> 00:13:35,930

climate change coalition now you're

359

00:13:40,570 --> 00:13:39,020

giggling funny how is it funny well I've

360

00:13:42,070 --> 00:13:40,580

got fewer votes in the barking mad

361

00:13:44,380 --> 00:13:42,080

shooters party but slightly more than

362

00:13:46,960 --> 00:13:44,390

the barking mad fish's body so at forty

363

00:13:48,400 --> 00:13:46,970

thousand votes I now know my position in

364

00:13:51,610 --> 00:13:48,410

federal politics which is totally

365

00:13:53,650 --> 00:13:51,620

irrelevant oh but still ways we need

366

00:13:55,690 --> 00:13:53,660

people who are for truth in politics I

367

00:13:58,030 --> 00:13:55,700

must have neat um would you consider

368

00:14:00,370 --> 00:13:58,040

running again perhaps one of these days

369

00:14:05,800 --> 00:14:00,380

it's not impossible that it depends upon

370

00:14:07,420 --> 00:14:05,810

the circumstances but you don't really

371

00:14:10,449 --> 00:14:07,430

know the results of what you do you read

372

00:14:13,420 --> 00:14:10,459

Richard Nixon's autobiography no no

373

00:14:16,269 --> 00:14:13,430

which particular well in his

374

00:14:19,930 --> 00:14:16,279

autobiography he describes how the war

375

00:14:22,650 --> 00:14:19,940

in Vietnam is going badly and as far as

376

00:14:24,879 --> 00:14:22,660

he's concerned he has made the decision

377

00:14:26,740 --> 00:14:24,889

which automatically will happen because

378

00:14:29,259 --> 00:14:26,750

he's the commander in chief in front of

379

00:14:31,090 --> 00:14:29,269

the forces of America he has made the

380

00:14:35,879 --> 00:14:31,100

decision to drop nuclear weapons on

381

00:14:38,170 --> 00:14:35,889

North Vietnam and then there's a big

382

00:14:42,100 --> 00:14:38,180

absolutely enormous peace demonstration

383

00:14:45,579 --> 00:14:42,110

in New York and everybody for this

384

00:14:47,379 --> 00:14:45,589

demonstration goes home sad because they

385

00:14:50,530 --> 00:14:47,389

think nothing happened knowing change

386

00:14:53,499 --> 00:14:50,540

but he saw that peace demonstration he

387

00:14:55,389 --> 00:14:53,509

was so moved by it that he decided that

388

00:14:58,509 --> 00:14:55,399

he would not drop nuclear weapons on

389

00:14:59,980 --> 00:14:58,519

Vietnam so in the same way with me

390

00:15:01,150 --> 00:14:59,990

standing for politics a lot of people

391

00:15:02,980 --> 00:15:01,160

doing what they do with you doing what

392

00:15:05,920 --> 00:15:02,990

you're doing you don't really know at

393

00:15:07,420 --> 00:15:05,930

the time what effects you have but if

394

00:15:09,430 --> 00:15:07,430

you try to stick to the truth avoid

395

00:15:11,290 --> 00:15:09,440

opinions you're probably doing something

396

00:15:14,230 --> 00:15:11,300

you can spec withstand the test of time

397

00:15:16,300 --> 00:15:14,240

that you to do so would you have any

398

00:15:17,889 --> 00:15:16,310

advice for new science communicators out

399

00:15:19,780 --> 00:15:17,899

there you've mentioned in the past how

400

00:15:22,720 --> 00:15:19,790

new media such as this podcast the

401
00:15:24,370 --> 00:15:22,730
skeptical zone is a part of that how does

402
00:15:27,280 --> 00:15:24,380
one get started should we keep on

403
00:15:28,809 --> 00:15:27,290
battling as it were ok advice number one

404
00:15:31,120 --> 00:15:28,819
never had sex with anybody has more

405
00:15:33,879 --> 00:15:31,130
problems than you do this is great but

406
00:15:37,389 --> 00:15:33,889
you pay for it number to avoid opinions

407
00:15:38,980 --> 00:15:37,399
stick to the facts number three it's

408
00:15:43,809 --> 00:15:38,990
amazing how lucky you get if you work

409
00:15:45,920 --> 00:15:43,819
hard number for inspiration doesn't come

410
00:15:48,590 --> 00:15:45,930
out anyway you just sort of have to keep

411
00:15:53,470 --> 00:15:48,600
so that's saying that you get it could

412
00:15:59,720 --> 00:15:56,990
never play cards with anybody called doc

413
00:16:01,519 --> 00:15:59,730

okay you'll lose yeah I've learned that

414

00:16:04,300 --> 00:16:01,529

in Las Vegas with magicians actually oh

415

00:16:07,790 --> 00:16:04,310

yes they put another device number five

416

00:16:08,990 --> 00:16:07,800

don't play cards seriously with people

417

00:16:11,389 --> 00:16:09,000

who are magicians you lose every time

418

00:16:13,160 --> 00:16:11,399

yeah cool I remember to tell that to

419

00:16:31,660 --> 00:16:13,170

james randi next time i see like a

420

00:16:35,750 --> 00:16:34,009

well I've come here today to the new

421

00:16:37,850 --> 00:16:35,760

town festival here in Sydney it's a

422

00:16:40,160 --> 00:16:37,860

giant sort of community festival spread

423

00:16:42,139 --> 00:16:40,170

over acres and acres of parkland with

424

00:16:43,910 --> 00:16:42,149

hundreds of stalls and people selling

425

00:16:45,889 --> 00:16:43,920

all sorts of things and thousands of

426
00:16:48,199 --> 00:16:45,899
people milling around and I've bumped

427
00:16:49,759 --> 00:16:48,209
into Ian Bryce from the Australian

428
00:16:51,829 --> 00:16:49,769
skeptics and the secular party hello

429
00:16:53,840 --> 00:16:51,839
here good morning Richard good morning

430
00:16:56,509 --> 00:16:53,850
now can you tell this is a little bit

431
00:16:59,180 --> 00:16:56,519
about what you're doing here today yes

432
00:17:01,009 --> 00:16:59,190
here we have a stands combined effort by

433
00:17:03,110 --> 00:17:01,019
the secular party of australia the

434
00:17:06,230 --> 00:17:03,120
political arm and the sydney atheists

435
00:17:07,760 --> 00:17:06,240
which is a bunch of young people very

436
00:17:09,980 --> 00:17:07,770
active on the internet and selling

437
00:17:12,470 --> 00:17:09,990
t-shirts and giving out bags of lollies

438
00:17:14,390 --> 00:17:12,480

to people who come to visit our standing

439

00:17:15,799 --> 00:17:14,400

having a great time you've got a good

440

00:17:18,829 --> 00:17:15,809

spot here I see it's right near one of

441

00:17:21,679 --> 00:17:18,839

the many entrances here and right on the

442

00:17:23,150 --> 00:17:21,689

table is it a picture was a picture what

443

00:17:25,520 --> 00:17:23,160

I'm talking about it's the Pope it's the

444

00:17:27,650 --> 00:17:25,530

Pope himself well an effigy at least yes

445

00:17:29,539 --> 00:17:27,660

indeed a mannequin yes he used to be

446

00:17:31,130 --> 00:17:29,549

addressed Danny but now he is dressed up

447

00:17:33,530 --> 00:17:31,140

like the Pope and he's got his mitre hat

448

00:17:35,539 --> 00:17:33,540

and he's got his gold telephone which is

449

00:17:37,190 --> 00:17:35,549

linked to a gold antenna on the roof and

450

00:17:40,549 --> 00:17:37,200

he's talking to his invisible friend in

451
00:17:41,780 --> 00:17:40,559
the sky and the people who come by have

452
00:17:44,480 --> 00:17:41,790
the opportunity of photographing

453
00:17:46,430 --> 00:17:44,490
themselves first standing beside pipo

454
00:17:47,630 --> 00:17:46,440
which doesn't happen every day doesn't

455
00:17:49,310 --> 00:17:47,640
happen every day have you had many

456
00:17:51,110 --> 00:17:49,320
people coming up asking questions in

457
00:17:53,740 --> 00:17:51,120
groups there suddenly there's a constant

458
00:17:56,840 --> 00:17:53,750
strain of inquiries a lot of people are

459
00:17:59,869 --> 00:17:56,850
only know how to join one of the groups

460
00:18:01,939 --> 00:17:59,879
and some people are supporters joy

461
00:18:04,459 --> 00:18:01,949
but don't necessarily want to join

462
00:18:06,499 --> 00:18:04,469
they've also got a Sydney acres of the

463
00:18:08,949 --> 00:18:06,509

competition for a slogan after the very

464

00:18:11,209 --> 00:18:08,959

successful Bus campaign in London oh yes

465

00:18:13,430 --> 00:18:11,219

they're looking for a slogan which could

466

00:18:16,549 --> 00:18:13,440

be similarly used in Australia to the

467

00:18:19,009 --> 00:18:16,559

aim is to promote the idea that one can

468

00:18:21,109 --> 00:18:19,019

hold atheists beliefs without being

469

00:18:23,479 --> 00:18:21,119

outside Iran fringe or in some way

470

00:18:24,919 --> 00:18:23,489

you're tearing you down society that's

471

00:18:26,209 --> 00:18:24,929

right running around committing crimes

472

00:18:28,279 --> 00:18:26,219

willy-nilly or something like that

473

00:18:30,199 --> 00:18:28,289

that's right atheists not necessarily

474

00:18:32,149 --> 00:18:30,209

amicus in fact I think quite the

475

00:18:33,829 --> 00:18:32,159

opposite if you're an atheist you have

476

00:18:36,949 --> 00:18:33,839

justify your belief at least if you're

477

00:18:39,319 --> 00:18:36,959

skeptical type that's right now if

478

00:18:41,839 --> 00:18:39,329

people were wish to find out more about

479

00:18:45,469 --> 00:18:41,849

your circular party in what can they do

480

00:18:47,959 --> 00:18:45,479

they can visit our website wwc cool or

481

00:18:50,149 --> 00:18:47,969

got a new but they're more interesting

482

00:18:53,389 --> 00:18:50,159

bit of entertainment they can visit my

483

00:18:54,739 --> 00:18:53,399

website world truth today dot org we'll

484

00:18:56,599 --> 00:18:54,749

just set up to counter world youth day

485

00:18:58,759 --> 00:18:56,609

and then they can read about the

486

00:19:00,379 --> 00:18:58,769

exploits at the popemobile and indeed

487

00:19:01,549 --> 00:19:00,389

they can see a video of the punk nabil

488

00:19:05,479 --> 00:19:01,559

whizzing through the streets of sydney

489

00:19:06,739 --> 00:19:05,489

is indeed and when we this happened

490

00:19:09,229 --> 00:19:06,749

during World Youth Day as a protest

491

00:19:10,699 --> 00:19:09,239

against the Pope's activities and we can

492

00:19:12,499 --> 00:19:10,709

be detention but police a number of

493

00:19:14,529 --> 00:19:12,509

times or you're off the core don't you

494

00:19:18,979 --> 00:19:14,539

yes up to court on the first in December

495

00:19:21,889 --> 00:19:18,989

charged with having a refinement likely

496

00:19:23,659 --> 00:19:21,899

to distract motorists and I have to

497

00:19:26,149 --> 00:19:23,669

admit that it certainly was intended to

498

00:19:28,159 --> 00:19:26,159

do that as I most of the mobile

499

00:19:29,779 --> 00:19:28,169

advertising signs it's exactly right

500

00:19:31,339 --> 00:19:29,789

I've seen some doozies well look I'll

501
00:19:32,930 --> 00:19:31,349
try to get along to support you in

502
00:19:34,309 --> 00:19:32,940
cordial but good to see you and good

503
00:19:38,029 --> 00:19:34,319
luck with the rest of the day thank you

504
00:19:40,309 --> 00:19:38,039
Richard believe it or not there isn'ta

505
00:19:41,779 --> 00:19:40,319
too I just happen to bump into Tiffany

506
00:19:44,089 --> 00:19:41,789
day you'll remember Tiffany day from our

507
00:19:46,369 --> 00:19:44,099
last episode from the Macquarie skeptics

508
00:19:47,599 --> 00:19:46,379
hello Tiffany hi Richard hey going now

509
00:19:50,749 --> 00:19:47,609
you're getting to be a regular on the

510
00:19:53,599 --> 00:19:50,759
show yes it seems so it seems that way

511
00:19:55,789 --> 00:19:53,609
so you've come out here today to support

512
00:19:58,009 --> 00:19:55,799
the the atheist side of the temple yes

513
00:19:59,670 --> 00:19:58,019

the Sydney atheist website Sydney

514

00:20:01,350 --> 00:19:59,680

atheist org

515

00:20:03,360 --> 00:20:01,360

and i'm here to help out handing out

516

00:20:06,450 --> 00:20:03,370

flyers that's fantastic with your

517

00:20:08,040 --> 00:20:06,460

religion kills a international health

518

00:20:10,680 --> 00:20:08,050

warning t-shirt on like the cigarette

519

00:20:12,810 --> 00:20:10,690

packet warning level well you look very

520

00:20:15,000 --> 00:20:12,820

very nice standing next to the Pope here

521

00:20:16,890 --> 00:20:15,010

a mistake yes he's on the phone to go at

522

00:20:19,320 --> 00:20:16,900

the moment so try not to disturb you

523

00:20:25,170 --> 00:20:19,330

great to see you again Tiffany thanks

524

00:20:27,030 --> 00:20:25,180

Richard the tree and this is a strange

525

00:20:30,600 --> 00:20:27,040

thing here I've come across it's a gong

526

00:20:32,730 --> 00:20:30,610

that's standing up hello hello hi what's

527

00:20:36,590 --> 00:20:32,740

your name flag hello Fleur now why are

528

00:20:39,060 --> 00:20:36,600

you here today oh just hear the apse oh

529

00:20:40,950 --> 00:20:39,070

yeah this is great everybody there's a

530

00:20:43,740 --> 00:20:40,960

sort of a stand here of a metal stand

531

00:20:45,960 --> 00:20:43,750

with a golden brass gong and a handle

532

00:20:52,440 --> 00:20:45,970

and it says underneath hit the gong if

533

00:20:58,960 --> 00:20:56,830

an angel died oh sorry I just killed an

534

00:21:00,279 --> 00:20:58,970

angel apparently well if I don't get

535

00:21:01,930 --> 00:21:00,289

struck by lightning or thunder in the

536

00:21:20,289 --> 00:21:01,940

next couple of minutes i'll be doing

537

00:21:24,529 --> 00:21:22,639

astronomy cast it takes a fact space

538

00:21:26,419 --> 00:21:24,539

journey through the cosmos as it offers

539

00:21:29,119 --> 00:21:26,429

listeners weekly discussions on

540

00:21:31,970 --> 00:21:29,129

astronomical topics ranging from planets

541

00:21:34,340 --> 00:21:31,980

to cosmology hosted by Fraser Cain of

542

00:21:35,330 --> 00:21:34,350

Universe Today and myself dr. Pamela

543

00:21:37,999 --> 00:21:35,340

gave southern illinois university

544

00:21:39,889 --> 00:21:38,009

edwardsville this show brings the

545

00:21:42,320 --> 00:21:39,899

questions of an avid astronomy lover

546

00:21:44,419 --> 00:21:42,330

directly to an astronomer together

547

00:21:45,950 --> 00:21:44,429

Fraser and I explore what is known and

548

00:21:48,710 --> 00:21:45,960

being discovered about the universe

549

00:21:50,779 --> 00:21:48,720

around us join us each week as we take a

550

00:22:02,029 --> 00:21:50,789

fact space journey through the cosmos at

551
00:22:04,700 --> 00:22:02,039
astronomy cast calm now it's time for

552
00:22:10,340 --> 00:22:04,710
dr. Richie reports with dr. Rachel

553
00:22:12,229 --> 00:22:10,350
Dunlop Steve novella is a clinical

554
00:22:14,389 --> 00:22:12,239
neurologist and academic at Yale

555
00:22:16,190 --> 00:22:14,399
University School of Medicine he is the

556
00:22:19,009 --> 00:22:16,200
co-founder and president of the New

557
00:22:20,720 --> 00:22:19,019
England skeptical Society the associate

558
00:22:22,820 --> 00:22:20,730
editor of the journal of the scientific

559
00:22:25,039 --> 00:22:22,830
review of alternative medicine and a

560
00:22:27,169 --> 00:22:25,049
contributing editor to quack watch which

561
00:22:29,599 --> 00:22:27,179
is a consumer advocacy website dealing

562
00:22:31,220 --> 00:22:29,609
with all types of health fraud Steve

563
00:22:33,799 --> 00:22:31,230

also writes the monthly column weird

564

00:22:35,119 --> 00:22:33,809

science for the new haven advocate but

565

00:22:36,919 --> 00:22:35,129

of course most of you would know him

566

00:22:39,710 --> 00:22:36,929

best as the host of the skeptics guide

567

00:22:41,930 --> 00:22:39,720

to the universe which is one of the most

568

00:22:44,659 --> 00:22:41,940

popular skeptical podcasts in the world

569

00:22:46,789 --> 00:22:44,669

and currently has about forty thousand

570

00:22:49,099 --> 00:22:46,799

listeners each week there's also a

571

00:22:52,220 --> 00:22:49,109

companion podcast called skeptics guide

572

00:22:54,590 --> 00:22:52,230

five by five and on top of this steve

573

00:22:57,229 --> 00:22:54,600

has several blogs some of which he

574

00:22:58,789 --> 00:22:57,239

contributes to his owners neurological he

575

00:23:01,220 --> 00:22:58,799

also contributes to science-based

576

00:23:04,039 --> 00:23:01,230

medicine and skeptic blog which is the

577

00:23:05,989 --> 00:23:04,049

blog of the sceptile adjusts so welcome

578

00:23:06,950 --> 00:23:05,999

to the skeptic zone Steve thanks for

579

00:23:09,560 --> 00:23:06,960

having me it's great to be with you guys

580

00:23:11,960 --> 00:23:09,570

well based on what I've just summarized

581

00:23:15,470 --> 00:23:11,970

about what you do let me start by asking

582

00:23:17,210 --> 00:23:15,480

you how do you find a time it certainly

583

00:23:19,759 --> 00:23:17,220

is a lot of work I mean is there's no

584

00:23:22,549 --> 00:23:19,769

way around that you know writing a daily

585

00:23:24,649 --> 00:23:22,559

blog and producing two podcasts in

586

00:23:27,680 --> 00:23:24,659

addition to that medical career thing

587

00:23:30,979 --> 00:23:27,690

I got going as a side that's that's just

588

00:23:33,229 --> 00:23:30,989

a part time but crisis part time but you

589

00:23:35,479 --> 00:23:33,239

know part of it is the beauty of

590

00:23:37,339 --> 00:23:35,489

computers you know I always or pretty

591

00:23:40,430 --> 00:23:37,349

much always have access to at least my

592

00:23:43,129 --> 00:23:40,440

laptop so I can make productive time and

593

00:23:45,409 --> 00:23:43,139

ever whenever possible but also in all

594

00:23:47,779 --> 00:23:45,419

honesty it's not what I do is not very

595

00:23:50,149 --> 00:23:47,789

different than my by academic colleagues

596

00:23:51,979 --> 00:23:50,159

you know you have a pretty much 925

597

00:23:53,599 --> 00:23:51,989

either clinical research schedule and

598

00:23:56,089 --> 00:23:53,609

then nights and weekends you spend doing

599

00:23:59,180 --> 00:23:56,099

your academic writing or research or

600

00:24:01,879 --> 00:23:59,190

editing a book or something but I just

601
00:24:05,210 --> 00:24:01,889
choose to to funnel my academic time

602
00:24:07,789 --> 00:24:05,220
primarily into promoting science

603
00:24:09,739 --> 00:24:07,799
education and science understanding so

604
00:24:11,899 --> 00:24:09,749
so Ivy Tech blah I'm not really any

605
00:24:13,369 --> 00:24:11,909
busier than my average academic

606
00:24:14,659 --> 00:24:13,379
colleague to be honest with you well

607
00:24:16,849 --> 00:24:14,669
actually stay we've got some breaking

608
00:24:18,680 --> 00:24:16,859
news to tell our listeners in the

609
00:24:20,419 --> 00:24:18,690
southern hemisphere haven't we where the

610
00:24:23,749 --> 00:24:20,429
skeptical donor very excited to announce

611
00:24:25,219 --> 00:24:23,759
that just a few hours ago you and the

612
00:24:27,710 --> 00:24:25,229
rest of SGU announced that you're

613
00:24:29,629 --> 00:24:27,720

finally coming to Australia yay we are

614

00:24:32,779 --> 00:24:29,639

definitely planning coming to australia

615

00:24:34,909 --> 00:24:32,789

in 2010 Richard was kind enough Richard

616

00:24:37,219 --> 00:24:34,919

Saunders to invite us down and we jumped

617

00:24:39,289 --> 00:24:37,229

at the chance that's fantastic news and

618

00:24:40,849 --> 00:24:39,299

that's going to be for the 2010

619

00:24:43,450 --> 00:24:40,859

Australian skeptics National Convention

620

00:24:45,619 --> 00:24:43,460

in Sydney yeah really really looking for

621

00:24:48,499 --> 00:24:45,629

well the whole team is gonna come is

622

00:24:51,039 --> 00:24:48,509

that right yes the whole sut fantaken

623

00:24:53,239 --> 00:24:51,049

first and for being left behind so

624

00:24:54,769 --> 00:24:53,249

better bring everybody that's going to

625

00:24:57,619 --> 00:24:54,779

be very exciting we look forward to that

626

00:24:59,269 --> 00:24:57,629

now one of my bugbears Steve and I think

627

00:25:00,320 --> 00:24:59,279

this is um certainly one of yours as

628

00:25:02,719 --> 00:25:00,330

well I don't know if you'd call it a

629

00:25:05,180 --> 00:25:02,729

bugbear but its alternative medicine

630

00:25:07,460 --> 00:25:05,190

which is also known as well and woo are

631

00:25:09,680 --> 00:25:07,470

some people call it and of course you've

632

00:25:11,989 --> 00:25:09,690

done a lot to educate people about some

633

00:25:14,269 --> 00:25:11,999

of the dangers of alternative medicine

634

00:25:15,919 --> 00:25:14,279

three all your blogs and websites that

635

00:25:17,419 --> 00:25:15,929

you have but one of the things you

636

00:25:18,859 --> 00:25:17,429

mentioned to me recently was that there

637

00:25:21,619 --> 00:25:18,869

are not many doctors out there who are

638

00:25:23,629 --> 00:25:21,629

doing this and I like you tend to go to

639

00:25:26,029 --> 00:25:23,639

psychic shows and well-being festivals

640

00:25:28,339 --> 00:25:26,039

and i SAT through almost every episode

641

00:25:29,899 --> 00:25:28,349

of the filming of the one which as you

642

00:25:33,589 --> 00:25:29,909

know Richard Saunders was the sceptical

643

00:25:35,930 --> 00:25:33,599

judge on and it was a true yeah then I

644

00:25:38,239 --> 00:25:35,940

was for education and research that I'm

645

00:25:38,510 --> 00:25:38,249

what I wanted to ask you was why do you

646

00:25:40,730 --> 00:25:38,520

think

647

00:25:42,020 --> 00:25:40,740

doctors and science professionals don't

648

00:25:45,110 --> 00:25:42,030

get out there and do this stuff will

649

00:25:48,740 --> 00:25:45,120

make a fuss yeah there's a curious lack

650

00:25:51,380 --> 00:25:48,750

of outrage amongst rank-and-file

651
00:25:55,400 --> 00:25:51,390
academics and physicians as to what's

652
00:25:58,490 --> 00:25:55,410
happening and I speak quite a bit to two

653
00:26:00,170 --> 00:25:58,500
other physicians about this issue those

654
00:26:03,200 --> 00:26:00,180
I think thinking of those who see what's

655
00:26:05,870 --> 00:26:03,210
going on for what it is which to just

656
00:26:08,210 --> 00:26:05,880
briefly summarize what i think the

657
00:26:10,490 --> 00:26:08,220
alternative medicine or cam movement is

658
00:26:12,320 --> 00:26:10,500
about it's basically an attack on the

659
00:26:14,870 --> 00:26:12,330
scientific basis of the standard of care

660
00:26:16,640 --> 00:26:14,880
it's an attempt to create a double

661
00:26:19,310 --> 00:26:16,650
standard to carve out this separate

662
00:26:21,830 --> 00:26:19,320
standard where science and good science

663
00:26:24,350 --> 00:26:21,840

is not the standard of care yeah in

664

00:26:27,110 --> 00:26:24,360

essence so that anything can go because

665

00:26:29,090 --> 00:26:27,120

obviously you know if you if you there

666

00:26:32,300 --> 00:26:29,100

are true believe or a proponent of a

667

00:26:33,890 --> 00:26:32,310

treatment modality that doesn't not meet

668

00:26:36,350 --> 00:26:33,900

the rigorous standards of science or

669

00:26:37,730 --> 00:26:36,360

you're a charlatan or a fraud who wants

670

00:26:39,800 --> 00:26:37,740

to make money off of a treatment that

671

00:26:41,750 --> 00:26:39,810

doesn't meet ethical or scientific

672

00:26:43,820 --> 00:26:41,760

standards then you'd like to have this

673

00:26:46,070 --> 00:26:43,830

carved out special exception for you

674

00:26:49,130 --> 00:26:46,080

where you can pursue your trade without

675

00:26:51,350 --> 00:26:49,140

having to do things like research or you

676
00:26:54,950 --> 00:26:51,360
have have a basic science you know

677
00:26:56,420 --> 00:26:54,960
support your notions so and a lot of it

678
00:26:58,790 --> 00:26:56,430
also is an attempt to insert

679
00:27:00,740 --> 00:26:58,800
spirituality or faith into medicine show

680
00:27:04,190 --> 00:27:00,750
as well a lot of these belief systems

681
00:27:06,170 --> 00:27:04,200
are basically religions so that that's

682
00:27:07,790 --> 00:27:06,180
what's happening and yet I think just

683
00:27:09,140 --> 00:27:07,800
most of most of my colleagues don't

684
00:27:11,590 --> 00:27:09,150
understand that they don't really see

685
00:27:14,860 --> 00:27:11,600
that and part of the reason is because

686
00:27:18,500 --> 00:27:14,870
the camp proponents have become very

687
00:27:21,830 --> 00:27:18,510
expert over the decades at couching what

688
00:27:23,900 --> 00:27:21,840

they're doing in in very appealing

689

00:27:27,140 --> 00:27:23,910

terminology they are masters of the

690

00:27:29,030 --> 00:27:27,150

language in fact the entire notion of

691

00:27:30,590 --> 00:27:29,040

complementary alternative medicine or

692

00:27:32,840 --> 00:27:30,600

integrative medicine is another term

693

00:27:34,400 --> 00:27:32,850

that's being used is it is a temp to

694

00:27:36,320 --> 00:27:34,410

control the length you know it's it's

695

00:27:37,820 --> 00:27:36,330

saying it's an alternative well it's an

696

00:27:41,030 --> 00:27:37,830

alternative to what to science-based

697

00:27:42,500 --> 00:27:41,040

medicine or that scum yeah or its

698

00:27:44,570 --> 00:27:42,510

complementary or integrated other which

699

00:27:46,340 --> 00:27:44,580

you can integrate medicine that is that

700

00:27:47,840 --> 00:27:46,350

is based on science and we owe is is

701
00:27:49,820 --> 00:27:47,850
safe and effective with treatments that

702
00:27:50,990 --> 00:27:49,830
what that don't work or that for which

703
00:27:51,980 --> 00:27:51,000
we don't know if they're safe and

704
00:27:54,410 --> 00:27:51,990
effective

705
00:27:55,310 --> 00:27:54,420
it's it's contradictory it's kind of

706
00:27:56,870 --> 00:27:55,320
like saying well we can integrate

707
00:27:58,669 --> 00:27:56,880
intelligent design and evolution

708
00:28:00,620 --> 00:27:58,679
education is like now you can't teach

709
00:28:02,480 --> 00:28:00,630
students legitimate signs and then

710
00:28:04,100 --> 00:28:02,490
confuse them with an a bastardization of

711
00:28:06,290 --> 00:28:04,110
science at the same time there's just

712
00:28:08,780 --> 00:28:06,300
certain things just can't be integrated

713
00:28:10,040 --> 00:28:08,790

together so they've they've done a

714

00:28:11,750 --> 00:28:10,050

really good job at controlling the

715

00:28:13,549 --> 00:28:11,760

language they've you know couched what

716

00:28:15,410 --> 00:28:13,559

they're doing in terms of things like a

717

00:28:17,210 --> 00:28:15,420

holistic medicine and say we want to

718

00:28:19,520 --> 00:28:17,220

treat the whole person you know mind

719

00:28:22,880 --> 00:28:19,530

body spirit it sounds really good

720

00:28:25,669 --> 00:28:22,890

superficially but it's really all just a

721

00:28:27,560 --> 00:28:25,679

hand waving distraction from the only

722

00:28:30,230 --> 00:28:27,570

issue that really matters and that is

723

00:28:32,930 --> 00:28:30,240

getting away from science as the

724

00:28:35,240 --> 00:28:32,940

standard for health care and so it's

725

00:28:36,980 --> 00:28:35,250

mainly so it's part of it is just

726

00:28:38,930 --> 00:28:36,990

confusion as to what's actually going on

727

00:28:42,049 --> 00:28:38,940

the other part of it is this sort of

728

00:28:44,510 --> 00:28:42,059

mascota chol correctness or notion of

729

00:28:47,000 --> 00:28:44,520

democracy fairness or even academic

730

00:28:49,880 --> 00:28:47,010

freedom in the u.s. especially that

731

00:28:52,460 --> 00:28:49,890

those kind of themes play really really

732

00:28:54,350 --> 00:28:52,470

well and I hear that a lot you know from

733

00:28:56,270 --> 00:28:54,360

my colleagues you know when I say well

734

00:28:58,010 --> 00:28:56,280

you know what why aren't you outraged

735

00:29:00,860 --> 00:28:58,020

about this it's like oh we're just being

736

00:29:03,230 --> 00:29:00,870

you know fair and open net you know I

737

00:29:04,760 --> 00:29:03,240

we're not going to repress somebody

738

00:29:07,580 --> 00:29:04,770

else's ability to pursue what they

739

00:29:09,230 --> 00:29:07,590

believe in or clay want you know which

740

00:29:12,140 --> 00:29:09,240

is dangerous isn't it because a lot of

741

00:29:14,180 --> 00:29:12,150

this stuff is is dangerous in the sense

742

00:29:15,890 --> 00:29:14,190

that some of these practitioners will

743

00:29:17,570 --> 00:29:15,900

tell you to stop taking your

744

00:29:19,910 --> 00:29:17,580

conventional therapy and start taking

745

00:29:21,860 --> 00:29:19,920

theirs and in that case you're putting

746

00:29:24,260 --> 00:29:21,870

people's lives at risk potentially so

747

00:29:26,450 --> 00:29:24,270

yeah absolutely i mean that is the most

748

00:29:28,700 --> 00:29:26,460

obvious direct harm is diverting

749

00:29:32,870 --> 00:29:28,710

treatment away from treatments that are

750

00:29:35,780 --> 00:29:32,880

effective there's a guy selling his

751

00:29:37,820 --> 00:29:35,790

supplements in africa for aids telling

752

00:29:39,950 --> 00:29:37,830

his clients stop taking your

753

00:29:42,590 --> 00:29:39,960

antiretroviral drugs take my herbs

754

00:29:44,480 --> 00:29:42,600

instead and directly telling them not to

755

00:29:46,669 --> 00:29:44,490

take the conventional medicine so that

756

00:29:48,290 --> 00:29:46,679

happens a lot sometimes even when it's

757

00:29:50,240 --> 00:29:48,300

not intentional it's just diverting

758

00:29:52,880 --> 00:29:50,250

people's energy time and attention away

759

00:29:55,100 --> 00:29:52,890

from more effective treatments sometimes

760

00:29:56,600 --> 00:29:55,110

patients can't afford their prescription

761

00:29:59,210 --> 00:29:56,610

medications were there conventional

762

00:30:00,620 --> 00:29:59,220

treatment and the alternative treatment

763

00:30:02,659 --> 00:30:00,630

in there or they have to choose between

764

00:30:04,549 --> 00:30:02,669

the two and you know often they'll

765

00:30:05,400 --> 00:30:04,559

choose the one that's offering the most

766

00:30:08,070 --> 00:30:05,410

pope

767

00:30:09,240 --> 00:30:08,080

even the false hope that's true there's

768

00:30:10,470 --> 00:30:09,250

many other kinds of harm though too

769

00:30:11,900 --> 00:30:10,480

while we're talking about them it's

770

00:30:13,740 --> 00:30:11,910

obviously sometimes there's direct harm

771

00:30:15,350 --> 00:30:13,750

physical harm from the treatment itself

772

00:30:18,530 --> 00:30:15,360

not all of these treatments are safe

773

00:30:21,480 --> 00:30:18,540

chelation therapy has resulted in the

774

00:30:23,490 --> 00:30:21,490

death even a young child who is treating

775

00:30:25,590 --> 00:30:23,500

being treated with chelation therapy for

776

00:30:28,860 --> 00:30:25,600

autism which is not not indicated

777

00:30:30,900 --> 00:30:28,870

treatment this is your base tubercular

778

00:30:33,140 --> 00:30:30,910

poisoning notion which is this was false

779

00:30:37,530 --> 00:30:33,150

there's other harm you know if you

780

00:30:39,210 --> 00:30:37,540

inculcate a bizarre or anti scientific

781

00:30:41,370 --> 00:30:39,220

notions of health and disease there's

782

00:30:43,350 --> 00:30:41,380

lots of downstream harm from that

783

00:30:45,630 --> 00:30:43,360

there's financial harm and there's

784

00:30:49,170 --> 00:30:45,640

tremendous psychological harm and I see

785

00:30:53,580 --> 00:30:49,180

that myself you know patients invest a

786

00:30:55,770 --> 00:30:53,590

great deal of emotion and again and hope

787

00:30:57,900 --> 00:30:55,780

in what turns out to be a false hope and

788

00:30:59,970 --> 00:30:57,910

then it's like rubbing salt in the

789

00:31:02,250 --> 00:30:59,980

wounds they have oftentimes a desperate

790

00:31:05,040 --> 00:31:02,260

even maybe terminal illness and then

791

00:31:07,410 --> 00:31:05,050

someone comes along takes you know a

792

00:31:08,970 --> 00:31:07,420

huge chunk of money from them yes you

793

00:31:11,790 --> 00:31:08,980

know wastes their time and energy with

794

00:31:13,530 --> 00:31:11,800

false hope for a period of time then

795

00:31:16,200 --> 00:31:13,540

they have that second let down when it

796

00:31:17,520 --> 00:31:16,210

kind of dawns on them that this I've

797

00:31:20,940 --> 00:31:17,530

been hoodwinked you know on top of

798

00:31:22,410 --> 00:31:20,950

having a horrible no I victim of a fraud

799

00:31:24,240 --> 00:31:22,420

it's just it's a double whammy I

800

00:31:26,610 --> 00:31:24,250

actually have a friend in Australia who

801
00:31:28,770 --> 00:31:26,620
is currently undergoing chemotherapy and

802
00:31:31,260 --> 00:31:28,780
she's she's got very virulent cancer

803
00:31:33,480 --> 00:31:31,270
she's very sick she's not long for this

804
00:31:35,700 --> 00:31:33,490
world and of course she's desperate and

805
00:31:38,580 --> 00:31:35,710
she's vulnerable and she recently fell

806
00:31:39,960 --> 00:31:38,590
victim to her hair analysis and these

807
00:31:41,580 --> 00:31:39,970
people have told her that you know she

808
00:31:44,490 --> 00:31:41,590
can't eat tomatoes and she can eat

809
00:31:47,220 --> 00:31:44,500
macadamia nuts but not peanuts and this

810
00:31:49,140 --> 00:31:47,230
woman is tragically gonna die soon and

811
00:31:51,090 --> 00:31:49,150
now her whole life is focused around

812
00:31:52,590 --> 00:31:51,100
below can't have a glass of wine because

813
00:31:54,510 --> 00:31:52,600

the hair analysis people said I

814

00:31:56,700 --> 00:31:54,520

shouldn't and it's really compromising

815

00:31:58,590 --> 00:31:56,710

the last days that she's got left that's

816

00:32:00,660 --> 00:31:58,600

an extremely good point and you know I

817

00:32:02,750 --> 00:32:00,670

see that as well I deal with often

818

00:32:06,180 --> 00:32:02,760

terminal neurological illness such as

819

00:32:08,100 --> 00:32:06,190

ALS or motor neuron disease you know

820

00:32:09,450 --> 00:32:08,110

oftentimes for some patients all we

821

00:32:11,880 --> 00:32:09,460

could really do for them if it's been

822

00:32:15,090 --> 00:32:11,890

curable illness is try to make the

823

00:32:18,030 --> 00:32:15,100

remaining time as long productive and

824

00:32:19,350 --> 00:32:18,040

high-quality as we as we can and that

825

00:32:21,060 --> 00:32:19,360

has value you know if you

826

00:32:22,799 --> 00:32:21,070

a couple years to live you want to be

827

00:32:25,169 --> 00:32:22,809

spend that with your family or your

828

00:32:28,680 --> 00:32:25,179

loved ones and and be as active as you

829

00:32:32,789 --> 00:32:28,690

can and functional as you can be I last

830

00:32:35,160 --> 00:32:32,799

one died age yeah thanks but that that

831

00:32:37,350 --> 00:32:35,170

last time is taken away from them while

832

00:32:39,360 --> 00:32:37,360

they're pursuing you know these these

833

00:32:42,299 --> 00:32:39,370

false hopes and we've had patients go to

834

00:32:44,310 --> 00:32:42,309

China to get fake stem cell therapy and

835

00:32:46,289 --> 00:32:44,320

they died over there probably either

836

00:32:48,510 --> 00:32:46,299

just of their disease or complications

837

00:32:51,150 --> 00:32:48,520

of this treatment infections and whatnot

838

00:32:52,860 --> 00:32:51,160

but only after being billed for thirty

839

00:32:54,510 --> 00:32:52,870

forty thousand dollars for them for the

840

00:32:57,480 --> 00:32:54,520

whole deal and that's it they've looked

841

00:32:58,890 --> 00:32:57,490

there last year or so of life was stolen

842

00:33:01,470 --> 00:32:58,900

from them just so that somebody could

843

00:33:03,120 --> 00:33:01,480

could make a fast buck and that in your

844

00:33:04,890 --> 00:33:03,130

opinion that's that's fraudulent

845

00:33:07,350 --> 00:33:04,900

behavior not deluded behavior would you

846

00:33:09,419 --> 00:33:07,360

say from the alternative medicine

847

00:33:11,430 --> 00:33:09,429

proponents in that case well it

848

00:33:13,350 --> 00:33:11,440

obviously is the whole spectrum within

849

00:33:15,330 --> 00:33:13,360

the broad umbrella began this sort of

850

00:33:17,880 --> 00:33:15,340

fake category have alternative medicine

851
00:33:19,950 --> 00:33:17,890
it's hard to Saul ways say for sure with

852
00:33:21,330 --> 00:33:19,960
an individual because you can't read

853
00:33:23,280 --> 00:33:21,340
mind you know how deluded are they

854
00:33:25,680 --> 00:33:23,290
versus fraudulent there are some cases

855
00:33:27,180 --> 00:33:25,690
where you know they have to be

856
00:33:28,860 --> 00:33:27,190
committing fraud like psychic surgery

857
00:33:32,010 --> 00:33:28,870
which is popular in the Philippines so

858
00:33:33,510 --> 00:33:32,020
they're they're pretending to you like

859
00:33:35,039 --> 00:33:33,520
psychically put their hands inside

860
00:33:36,960 --> 00:33:35,049
somebody and remove tumors or whatever

861
00:33:39,169 --> 00:33:36,970
they say psychically diagnosed and

862
00:33:41,669 --> 00:33:39,179
they're palming chicken parts and then

863
00:33:43,380 --> 00:33:41,679

revealing the O's to the people in order

864

00:33:45,780 --> 00:33:43,390

to deceive them that's a level of

865

00:33:48,750 --> 00:33:45,790

deception that requires culpability that

866

00:33:50,909 --> 00:33:48,760

requires a knowledge of what you're

867

00:33:53,190 --> 00:33:50,919

doing it that's premeditated yeah then

868

00:33:56,549 --> 00:33:53,200

you get to the gray area like these stem

869

00:33:58,890 --> 00:33:56,559

cell clinics in China and you know it is

870

00:34:00,720 --> 00:33:58,900

separately by their behavior I think

871

00:34:04,650 --> 00:34:00,730

it's not so much that they necessarily

872

00:34:06,390 --> 00:34:04,660

feel that there's no potential value to

873

00:34:10,320 --> 00:34:06,400

what they're doing I think they just

874

00:34:14,190 --> 00:34:10,330

don't care it's it's they have you know

875

00:34:16,740 --> 00:34:14,200

some plausible deniability they're doing

876

00:34:18,869 --> 00:34:16,750

something they're getting tons of money

877

00:34:20,580 --> 00:34:18,879

from desperate wealthy Westerners you

878

00:34:22,590 --> 00:34:20,590

know from their point of view yeah and

879

00:34:26,099 --> 00:34:22,600

whether or not it actually works is kind

880

00:34:28,619 --> 00:34:26,109

of a secondary concern so there it may

881

00:34:30,389 --> 00:34:28,629

not be that they know it's fraudulent so

882

00:34:33,000 --> 00:34:30,399

much as they just don't care if it works

883

00:34:33,210 --> 00:34:33,010

or not and then there's definitely at

884

00:34:36,359 --> 00:34:33,220

the

885

00:34:38,280 --> 00:34:36,369

believers who yeah this is a religious

886

00:34:41,550 --> 00:34:38,290

belief to that or that are just so

887

00:34:44,010 --> 00:34:41,560

confused by the pseudoscience that they

888

00:34:45,649 --> 00:34:44,020

really think that it works or what

889

00:34:47,879 --> 00:34:45,659

they're doing is legitimate they're just

890

00:34:50,550 --> 00:34:47,889

profoundly confused about the science

891

00:34:52,080 --> 00:34:50,560

mmm well what that sort of leads me on

892

00:34:54,419 --> 00:34:52,090

to the next question which is about the

893

00:34:57,300 --> 00:34:54,429

hijacking of scientific terminology by

894

00:35:00,240 --> 00:34:57,310

can proponents and recently I attended

895

00:35:01,470 --> 00:35:00,250

the mind body spirit or wallet festival

896

00:35:03,870 --> 00:35:01,480

as we affectionately call it in

897

00:35:05,760 --> 00:35:03,880

Australia right and you'll be amazed Eve

898

00:35:07,800 --> 00:35:05,770

there's you know that quantum technology

899

00:35:11,700 --> 00:35:07,810

is working in alternative medicine I

900

00:35:13,380 --> 00:35:11,710

don't know if you've had what god damn

901
00:35:15,510 --> 00:35:13,390
technologies awesome I mean you know you

902
00:35:17,339 --> 00:35:15,520
just say the word quantum anything and

903
00:35:20,310 --> 00:35:17,349
it's instant you know to instant

904
00:35:21,930 --> 00:35:20,320
pseudoscience oh yeah um yeah that's

905
00:35:23,250 --> 00:35:21,940
yeah that's all it's all about the

906
00:35:26,670 --> 00:35:23,260
marketing which is the one thing that

907
00:35:28,710 --> 00:35:26,680
cam industry does extremely well it's

908
00:35:30,330 --> 00:35:28,720
all about the marketing and also they

909
00:35:32,400 --> 00:35:30,340
have an advantage in that they're not

910
00:35:35,220 --> 00:35:32,410
constrained by things like facts and

911
00:35:37,260 --> 00:35:35,230
ethics so if you're not so yeah you're

912
00:35:40,859 --> 00:35:37,270
not so constrained you can you can model

913
00:35:44,790 --> 00:35:40,869

your marketing purely for you know

914

00:35:47,040 --> 00:35:44,800

psychological impact and couching there

915

00:35:50,820 --> 00:35:47,050

are certain themes that that they follow

916

00:35:53,190 --> 00:35:50,830

one theme is the new gee whiz technology

917

00:35:55,050 --> 00:35:53,200

and this is this has been going on for a

918

00:35:56,640 --> 00:35:55,060

long long time ever since science has

919

00:35:59,670 --> 00:35:56,650

been sort of institutionalized and

920

00:36:03,210 --> 00:35:59,680

invoke in civilization so hundred years

921

00:36:05,160 --> 00:36:03,220

ago the the cutting-edge science II kind

922

00:36:06,810 --> 00:36:05,170

of treatment was radiation so they were

923

00:36:08,130 --> 00:36:06,820

radioactive tonics that people thought

924

00:36:09,300 --> 00:36:08,140

were the late latest greatest thing a

925

00:36:11,250 --> 00:36:09,310

hundred years before that it was

926

00:36:13,050 --> 00:36:11,260

electromagnetism so that's where Mesmer

927

00:36:14,970 --> 00:36:13,060

you know comes in with his animal

928

00:36:18,630 --> 00:36:14,980

magnetism that you can use to cure just

929

00:36:21,510 --> 00:36:18,640

about anything and now it's quantum you

930

00:36:24,570 --> 00:36:21,520

know is you Deepak Chopra's quantum

931

00:36:27,750 --> 00:36:24,580

healing for example or that sort of puts

932

00:36:29,940 --> 00:36:27,760

it it's a new way of justifying the

933

00:36:31,710 --> 00:36:29,950

idealistic notions that are thousands of

934

00:36:33,930 --> 00:36:31,720

years old look at that notion of this

935

00:36:35,670 --> 00:36:33,940

life energy so now you just throw

936

00:36:37,079 --> 00:36:35,680

quantum in front of it yeah the quantum

937

00:36:39,230 --> 00:36:37,089

life energy but it's the same sort of

938

00:36:41,700 --> 00:36:39,240

spiritual pre-scientific notions that

939

00:36:44,579 --> 00:36:41,710

you know we're weeded out of scientific

940

00:36:47,180 --> 00:36:44,589

thinking over a hundred years ago but

941

00:36:49,790 --> 00:36:47,190

yet the extremely effective marketing

942

00:36:51,829 --> 00:36:49,800

it's funny actually because I had a

943

00:36:54,020 --> 00:36:51,839

conversation with a live blood analysis

944

00:36:56,359 --> 00:36:54,030

person at the previous mind body spirit

945

00:36:58,069 --> 00:36:56,369

yeah I liking it Steve to someone who

946

00:37:00,020 --> 00:36:58,079

would place a whole lot of scientific

947

00:37:02,059 --> 00:37:00,030

words and jargon in a hat and just pull

948

00:37:03,559 --> 00:37:02,069

them out at random and then pepper

949

00:37:06,109 --> 00:37:03,569

they're sort of spell with these

950

00:37:07,700 --> 00:37:06,119

scientific words and so to someone who

951
00:37:10,819 --> 00:37:07,710
doesn't have a lot of science education

952
00:37:12,710 --> 00:37:10,829
it sounds kind of like it might be right

953
00:37:15,710 --> 00:37:12,720
because it's sciency and it's you know

954
00:37:17,210 --> 00:37:15,720
technical so what you say about the

955
00:37:19,730 --> 00:37:17,220
marketing is true that's what's what

956
00:37:22,069 --> 00:37:19,740
they do it's the point is to to befuddle

957
00:37:24,440 --> 00:37:22,079
with technobabble you know so people

958
00:37:26,210 --> 00:37:24,450
have this vague sense that it's sciency

959
00:37:28,400 --> 00:37:26,220
but they don't understand enough to

960
00:37:32,030 --> 00:37:28,410
realize that it doesn't make any sense

961
00:37:33,920 --> 00:37:32,040
I've seen that in product marketing as

962
00:37:35,480 --> 00:37:33,930
well like health care products this one

963
00:37:38,420 --> 00:37:35,490

catalog came from the name with a

964

00:37:39,890 --> 00:37:38,430

catalogue that we examined at one point

965

00:37:41,660 --> 00:37:39,900

it was I had about a hundred different

966

00:37:43,910 --> 00:37:41,670

pseudo-scientific products and their

967

00:37:47,660 --> 00:37:43,920

health products a number like one they

968

00:37:49,370 --> 00:37:47,670

had this cloth that had infrared the

969

00:37:54,079 --> 00:37:49,380

infrared spectrum woven into the fabric

970

00:37:55,460 --> 00:37:54,089

oh man what does that be like red woven

971

00:37:57,500 --> 00:37:55,470

into the fabric what does that even mean

972

00:37:58,910 --> 00:37:57,510

but had the word infrared in it it

973

00:38:00,620 --> 00:37:58,920

sounded good it kind of made it all

974

00:38:02,569 --> 00:38:00,630

again as you say all sciency we gotta

975

00:38:04,700 --> 00:38:02,579

get that is that is a deliberate attempt

976

00:38:06,319 --> 00:38:04,710

to deceive that's what that is the other

977

00:38:08,839 --> 00:38:06,329

thing that they all do a lot of them

978

00:38:11,210 --> 00:38:08,849

have dr. at the front of their names and

979

00:38:13,640 --> 00:38:11,220

I recently was doing some research on

980

00:38:16,910 --> 00:38:13,650

this but I wonder if you know much about

981

00:38:19,430 --> 00:38:16,920

how easy it is for a layman or anyone

982

00:38:21,800 --> 00:38:19,440

really to find out if someone's doctor

983

00:38:23,839 --> 00:38:21,810

is legitimate because you know there's

984

00:38:26,089 --> 00:38:23,849

so many diploma mills around these days

985

00:38:30,559 --> 00:38:26,099

it's it's not always easy to find out if

986

00:38:32,329 --> 00:38:30,569

someone actually does have a PhD uh yeah

987

00:38:34,010 --> 00:38:32,339

that's showing that you can search on

988

00:38:36,260 --> 00:38:34,020

them on the web and you ask them for the

989

00:38:38,450 --> 00:38:36,270

details if they can't provide you with a

990

00:38:40,460 --> 00:38:38,460

legitimate institution that provided

991

00:38:41,990 --> 00:38:40,470

their degree you should be suspicious I

992

00:38:43,910 --> 00:38:42,000

mean you should put the burden on them

993

00:38:45,950 --> 00:38:43,920

to prove that their degree is legitimate

994

00:38:49,130 --> 00:38:45,960

not on you to prove that it's not

995

00:38:51,950 --> 00:38:49,140

legitimate but if they can't provide you

996

00:38:53,480 --> 00:38:51,960

know a verifiable institution that

997

00:38:55,430 --> 00:38:53,490

provided the degree and then you're

998

00:38:57,380 --> 00:38:55,440

depending on how you know important this

999

00:38:58,880 --> 00:38:57,390

is to you you could then follow up with

1000

00:39:00,260 --> 00:38:58,890

that institution to see did they really

1001
00:39:01,100 --> 00:39:00,270
get the degree because they'll just they

1002
00:39:03,680 --> 00:39:01,110
could lie about

1003
00:39:05,210 --> 00:39:03,690
at as well so mean that vetting could be

1004
00:39:09,010 --> 00:39:05,220
either a couple of mouse clicks or a

1005
00:39:11,330 --> 00:39:09,020
phone call away you know for anybody

1006
00:39:13,520 --> 00:39:11,340
depending on you know how many layers of

1007
00:39:15,110 --> 00:39:13,530
deception they're using to hide hide

1008
00:39:17,150 --> 00:39:15,120
their trail but certainly when like

1009
00:39:18,770 --> 00:39:17,160
journalists or whatever investigators

1010
00:39:21,260 --> 00:39:18,780
are or if I'm writing about an

1011
00:39:22,580 --> 00:39:21,270
individual you can find out if they're

1012
00:39:25,550 --> 00:39:22,590
if they're degrees or legitimate or not

1013
00:39:27,500 --> 00:39:25,560

yeah it's um it's kind of rubbing salt

1014

00:39:29,390 --> 00:39:27,510

in the wind for for me for example

1015

00:39:30,830 --> 00:39:29,400

because I actually do have a PhD and you

1016

00:39:33,800 --> 00:39:30,840

can check on the University of Sydney

1017

00:39:35,360 --> 00:39:33,810

website people it's there and to see

1018

00:39:37,640 --> 00:39:35,370

these people just walking around saying

1019

00:39:39,350 --> 00:39:37,650

I'm dr. this and I'm dr. that and in

1020

00:39:41,570 --> 00:39:39,360

fact we know of one person who's not

1021

00:39:44,360 --> 00:39:41,580

only a PhD but he has a doctor of

1022

00:39:48,530 --> 00:39:44,370

science as well which I think he awarded

1023

00:39:51,860 --> 00:39:48,540

himself from his own institutions right

1024

00:39:53,740 --> 00:39:51,870

my point is that it that's convenient it

1025

00:39:56,330 --> 00:39:53,750

is convenient isn't it and in fact I

1026

00:39:58,310 --> 00:39:56,340

tricked the chronological order of his

1027

00:40:01,580 --> 00:39:58,320

degrees and he got the doctor of science

1028

00:40:03,200 --> 00:40:01,590

before he got the PhD which in academic

1029

00:40:05,330 --> 00:40:03,210

circles it's quite unusual that's

1030

00:40:07,580 --> 00:40:05,340

usually the other way around the problem

1031

00:40:11,420 --> 00:40:07,590

is worse in that there are now

1032

00:40:13,910 --> 00:40:11,430

recognized degrees that label somebody

1033

00:40:16,610 --> 00:40:13,920

to call themselves a doctor that have no

1034

00:40:18,140 --> 00:40:16,620

no have no external validity for example

1035

00:40:19,880 --> 00:40:18,150

I'm not sure how much is translate over

1036

00:40:23,000 --> 00:40:19,890

to Australia but in the United States we

1037

00:40:24,500 --> 00:40:23,010

have doctors of chiropractic we call

1038

00:40:27,200 --> 00:40:24,510

themselves doctor when when they don't

1039

00:40:28,910 --> 00:40:27,210

have an equal degree and also now

1040

00:40:31,340 --> 00:40:28,920

naturopaths you know doctor of

1041

00:40:34,420 --> 00:40:31,350

naturopathic medicine which is you know

1042

00:40:36,710 --> 00:40:34,430

naturopathic a quote-unquote doctors

1043

00:40:40,670 --> 00:40:36,720

that's it naturopathy is just a

1044

00:40:43,880 --> 00:40:40,680

collection of disparate sometimes

1045

00:40:45,860 --> 00:40:43,890

mutually exclusive pseudo-sciences it's

1046

00:40:48,290 --> 00:40:45,870

basically anything that's wrong anything

1047

00:40:50,330 --> 00:40:48,300

that gets to start discarded from

1048

00:40:53,270 --> 00:40:50,340

mainstream or scientific science they

1049

00:40:55,190 --> 00:40:53,280

pick up and make and weave into their

1050

00:40:57,380 --> 00:40:55,200

practice and they it's really mean

1051

00:40:59,780 --> 00:40:57,390

reading their articles in their texts is

1052

00:41:02,660 --> 00:40:59,790

like reading a fantasy novel I mean it

1053

00:41:04,010 --> 00:41:02,670

is just in crowd dropping Lee incredible

1054

00:41:06,380 --> 00:41:04,020

that the notions that they come out with

1055

00:41:08,870 --> 00:41:06,390

just completely antithetical to just

1056

00:41:10,430 --> 00:41:08,880

basic biology forget about you know

1057

00:41:11,840 --> 00:41:10,440

sophisticated medical research or

1058

00:41:14,120 --> 00:41:11,850

whatnot they're just violating even

1059

00:41:15,050 --> 00:41:14,130

basic biology and they just weave all

1060

00:41:18,080 --> 00:41:15,060

that into this

1061

00:41:21,230 --> 00:41:18,090

sort of vaguely FEMA the natural

1062

00:41:24,770 --> 00:41:21,240

treatment uh and but they now they have

1063

00:41:26,720 --> 00:41:24,780

Duke they can go to a college get a

1064

00:41:28,790 --> 00:41:26,730

degree in naturopathic medicine is

1065

00:41:30,140 --> 00:41:28,800

recognized in a number of states in the

1066

00:41:31,970 --> 00:41:30,150

United States and there they're slowly

1067

00:41:34,190 --> 00:41:31,980

you know working their way through state

1068

00:41:36,500 --> 00:41:34,200

legislatures getting getting recognition

1069

00:41:39,530 --> 00:41:36,510

how do you have naturopathy Nostra yeah

1070

00:41:41,570 --> 00:41:39,540

yes we do and it is a recognized degree

1071

00:41:43,790 --> 00:41:41,580

in fact it's about three years to do a

1072

00:41:45,770 --> 00:41:43,800

degree in naturopathy I'm not quite sure

1073

00:41:48,950 --> 00:41:45,780

what they do for that amount of time I

1074

00:41:50,000 --> 00:41:48,960

haven't seen a curriculum structure I've

1075

00:41:51,950 --> 00:41:50,010

looked for one but I haven't found

1076

00:41:53,630 --> 00:41:51,960

anything but yeah we have them

1077

00:41:56,780 --> 00:41:53,640

unfortunately right well that just

1078

00:41:58,460 --> 00:41:56,790

confused like even further so it now

1079

00:42:00,740 --> 00:41:58,470

doesn't how is the public supposed to

1080

00:42:02,330 --> 00:42:00,750

know if this if the the government or

1081

00:42:05,300 --> 00:42:02,340

the state license is somebody and they

1082

00:42:07,730 --> 00:42:05,310

have a degree it doesn't necessarily

1083

00:42:10,430 --> 00:42:07,740

mean anything so it's something they're

1084

00:42:13,970 --> 00:42:10,440

not doing their job of protecting the

1085

00:42:15,920 --> 00:42:13,980

public from fraud or you know we're

1086

00:42:18,260 --> 00:42:15,930

sharing at least a basic level of

1087

00:42:20,330 --> 00:42:18,270

legitimacy in health care providers so

1088

00:42:22,280 --> 00:42:20,340

the public is left to fend for

1089

00:42:24,050 --> 00:42:22,290

themselves yeah well I'm not sure what

1090

00:42:25,820 --> 00:42:24,060

it's like with the FDA Steve but our

1091

00:42:29,090 --> 00:42:25,830

government body here is the Therapeutic

1092

00:42:31,670 --> 00:42:29,100

Goods Administration so the TGA and they

1093

00:42:33,440 --> 00:42:31,680

actually you can list a product with

1094

00:42:36,800 --> 00:42:33,450

them which then entitles it to go into

1095

00:42:38,330 --> 00:42:36,810

pharmacies or you know drugstores and it

1096

00:42:40,730 --> 00:42:38,340

gives the government will give it an

1097

00:42:42,740 --> 00:42:40,740

official-looking listing number and say

1098

00:42:45,020 --> 00:42:42,750

it's been approved by the Australian

1099

00:42:48,620 --> 00:42:45,030

Government but things like for example

1100

00:42:50,870 --> 00:42:48,630

ear candles you can buy in drugs here

1101
00:42:53,780 --> 00:42:50,880
homeopathy you can buy in drug stores

1102
00:42:56,120 --> 00:42:53,790
from the perspective of someone from the

1103
00:42:57,800 --> 00:42:56,130
public it looks legitimate because the

1104
00:43:00,620 --> 00:42:57,810
government's approved it so it must work

1105
00:43:03,440 --> 00:43:00,630
and it's being sold in drugs the

1106
00:43:05,270 --> 00:43:03,450
conventional science-based medicine yeah

1107
00:43:07,250 --> 00:43:05,280
it's malfeasance in my opinion that says

1108
00:43:09,800 --> 00:43:07,260
the government completely filling the

1109
00:43:13,570 --> 00:43:09,810
public in the United States we do have

1110
00:43:16,700 --> 00:43:13,580
the FDA but we also have in 1994

1111
00:43:18,440 --> 00:43:16,710
Congress you know again under the

1112
00:43:20,900 --> 00:43:18,450
auspices of a couple of true believers

1113
00:43:22,790 --> 00:43:20,910

passed the dietary supplement health and

1114

00:43:25,100 --> 00:43:22,800

education act of nineteen ninety-four

1115

00:43:26,270 --> 00:43:25,110

which removed basically all the things

1116

00:43:28,970 --> 00:43:26,280

that you're talking about all sort of

1117

00:43:32,120 --> 00:43:28,980

supplements and herbs and vitamins

1118

00:43:34,430 --> 00:43:32,130

out of FDA control so that you could

1119

00:43:36,560 --> 00:43:34,440

market it without having to provide any

1120

00:43:39,650 --> 00:43:36,570

previous evidence of safety or

1121

00:43:41,930 --> 00:43:39,660

effectiveness and they created this sort

1122

00:43:45,170 --> 00:43:41,940

of new category of health claims called

1123

00:43:47,180 --> 00:43:45,180

structure-function claims so right in

1124

00:43:49,490 --> 00:43:47,190

the US there's two worlds there's

1125

00:43:51,620 --> 00:43:49,500

diseases and if you claim to treat a

1126
00:43:53,960 --> 00:43:51,630
disease then that's regulated as a drug

1127
00:43:54,980 --> 00:43:53,970
and the FDA has purview over that but

1128
00:43:57,530 --> 00:43:54,990
you could make these structure-function

1129
00:44:00,230 --> 00:43:57,540
claims without any without any oversight

1130
00:44:02,510 --> 00:44:00,240
or having to provide any evidence to

1131
00:44:04,300 --> 00:44:02,520
back up your claims and and those are

1132
00:44:07,750 --> 00:44:04,310
things like it boosts the immune system

1133
00:44:11,240 --> 00:44:07,760
or it enhances a positive mood or

1134
00:44:13,640 --> 00:44:11,250
well-being or nutritional support or

1135
00:44:15,230 --> 00:44:13,650
whatever you know detoxifies when you

1136
00:44:17,870 --> 00:44:15,240
could use all these sort of pseudo

1137
00:44:19,280 --> 00:44:17,880
health claims and if you're careful in

1138
00:44:20,630 --> 00:44:19,290

the wording and in the marketing you

1139

00:44:23,480 --> 00:44:20,640

could make the claims you want to make

1140

00:44:25,790 --> 00:44:23,490

you just can't mention diseases by have

1141

00:44:27,080 --> 00:44:25,800

to be minimally clever to evade the

1142

00:44:28,820 --> 00:44:27,090

regulation and you got to put a

1143

00:44:31,460 --> 00:44:28,830

disclaimer yes you know these claims

1144

00:44:33,140 --> 00:44:31,470

have not viewed by the FDA but half the

1145

00:44:35,210 --> 00:44:33,150

time they don't do even do that minimal

1146

00:44:37,520 --> 00:44:35,220

requirement the bottom line is to unless

1147

00:44:39,590 --> 00:44:37,530

you're you know fairly savvy about

1148

00:44:41,660 --> 00:44:39,600

what's going on do to them to the most

1149

00:44:43,099 --> 00:44:41,670

of the public at large the companies are

1150

00:44:46,790 --> 00:44:43,109

able to make the claims they want to

1151
00:44:48,590 --> 00:44:46,800
make and easily comport with the very

1152
00:44:50,210 --> 00:44:48,600
very deliberately loose regulations and

1153
00:44:52,609 --> 00:44:50,220
this has led to an explosion of the

1154
00:44:54,320 --> 00:44:52,619
supplement industry in this country so

1155
00:44:58,130 --> 00:44:54,330
now the public is is having to wade

1156
00:45:00,320 --> 00:44:58,140
through tremendous dubious claims that

1157
00:45:02,300 --> 00:45:00,330
you know when they the ones that the few

1158
00:45:04,359 --> 00:45:02,310
that do get investigated almost always

1159
00:45:07,960 --> 00:45:04,369
turn out to be incorrect or fraudulent

1160
00:45:10,250 --> 00:45:07,970
and it's a multi-billion dollar industry

1161
00:45:12,140 --> 00:45:10,260
yeah we have the same thing here where

1162
00:45:15,340 --> 00:45:12,150
you can't make claims on the product but

1163
00:45:18,590 --> 00:45:15,350

you can say may assist with or may help

1164

00:45:19,760 --> 00:45:18,600

you can't say it kills anything but the

1165

00:45:21,530 --> 00:45:19,770

other thing we have here and I don't

1166

00:45:23,150 --> 00:45:21,540

know if you have the same as we have in

1167

00:45:25,880 --> 00:45:23,160

most of our pharmacies we have

1168

00:45:28,220 --> 00:45:25,890

consulting iridology and naturopaths and

1169

00:45:30,740 --> 00:45:28,230

you can go and see them for free and

1170

00:45:32,359 --> 00:45:30,750

i'll give you some pharmacies I haven't

1171

00:45:34,130 --> 00:45:32,369

seen now they either you could there's

1172

00:45:35,900 --> 00:45:34,140

throughly homeopathic remedies and

1173

00:45:38,780 --> 00:45:35,910

whatnot in pharmacies and in drug stores

1174

00:45:42,170 --> 00:45:38,790

and supermarkets and then we have

1175

00:45:42,800 --> 00:45:42,180

separate it's like boutique nutrition

1176

00:45:44,690 --> 00:45:42,810

stores

1177

00:45:48,800 --> 00:45:44,700

the selling vitamins and minerals they

1178

00:45:51,640 --> 00:45:48,810

they will often have the iridology store

1179

00:45:53,950 --> 00:45:51,650

what whoever there but pharmacies

1180

00:45:55,940 --> 00:45:53,960

generally don't have these

1181

00:45:57,860 --> 00:45:55,950

paraprofessionals they're basically run

1182

00:45:59,870 --> 00:45:57,870

by pharmacists one of the things with

1183

00:46:03,350 --> 00:45:59,880

people who are not particularly science

1184

00:46:05,510 --> 00:46:03,360

educated if they try one of these on cam

1185

00:46:07,010 --> 00:46:05,520

therapies and they they claim it works

1186

00:46:08,840 --> 00:46:07,020

they'll say to you well it works for me

1187

00:46:10,640 --> 00:46:08,850

therefore it works you know they have a

1188

00:46:12,500 --> 00:46:10,650

story I will I had an ear infection and

1189

00:46:14,060 --> 00:46:12,510

I was taking conventional drugs and it

1190

00:46:15,980 --> 00:46:14,070

didn't help and then I put an ear candle

1191

00:46:19,220 --> 00:46:15,990

in my ear and it cleared up so it worked

1192

00:46:21,320 --> 00:46:19,230

and the problem is how can you or can

1193

00:46:23,570 --> 00:46:21,330

you even explain to them that that's not

1194

00:46:25,490 --> 00:46:23,580

the case isn't even worth trying to

1195

00:46:27,140 --> 00:46:25,500

explain to those people oh it's worth

1196

00:46:28,760 --> 00:46:27,150

trying to explain it I never get up on

1197

00:46:32,180 --> 00:46:28,770

people ahead of time but it is very very

1198

00:46:34,550 --> 00:46:32,190

very difficult you have to explain some

1199

00:46:36,440 --> 00:46:34,560

concepts of you know how we know what we

1200

00:46:39,470 --> 00:46:36,450

know and how easy it is for people to be

1201
00:46:41,210 --> 00:46:39,480
deceived by the things with you so what

1202
00:46:43,280 --> 00:46:41,220
you're talking about is sort of the Post

1203
00:46:45,470 --> 00:46:43,290
hoc ergo propter hoc logical fallacy you

1204
00:46:46,790 --> 00:46:45,480
know I was sick I took this treatment I

1205
00:46:48,140 --> 00:46:46,800
got better there for the treatment made

1206
00:46:49,730 --> 00:46:48,150
me better well you don't know what would

1207
00:46:52,610 --> 00:46:49,740
happen if you didn't treatment it's not

1208
00:46:54,830 --> 00:46:52,620
a controlled situation there's also the

1209
00:46:58,270 --> 00:46:54,840
placebo effect which is a very confusing

1210
00:47:01,120 --> 00:46:58,280
concept it's been extremely confused

1211
00:47:03,860 --> 00:47:01,130
it's especially by cam proponents as

1212
00:47:05,390 --> 00:47:03,870
most people think of it as the belief in

1213
00:47:08,510 --> 00:47:05,400

the treatment leads to a real

1214

00:47:11,870 --> 00:47:08,520

physiological effect and that in fact is

1215

00:47:13,790 --> 00:47:11,880

not the case that the quote unquote V

1216

00:47:15,650 --> 00:47:13,800

placebo effect is actually many many

1217

00:47:18,140 --> 00:47:15,660

many different effects it's everything

1218

00:47:22,280 --> 00:47:18,150

other than a physiological response to

1219

00:47:25,660 --> 00:47:22,290

an active treatment so that includes a

1220

00:47:29,450 --> 00:47:25,670

host of psychological factors you know

1221

00:47:31,850 --> 00:47:29,460

misperception biased memory confirmation

1222

00:47:33,530 --> 00:47:31,860

bias as well as the fact that there's

1223

00:47:36,980 --> 00:47:33,540

other variables if you're if you're

1224

00:47:39,980 --> 00:47:36,990

doing one thing to treat yourself you're

1225

00:47:42,830 --> 00:47:39,990

probably doing other things as well that

1226

00:47:45,470 --> 00:47:42,840

may be helping there's the need to

1227

00:47:47,510 --> 00:47:45,480

justify your beliefs or the fact that

1228

00:47:49,130 --> 00:47:47,520

you've invested in a treatment there's

1229

00:47:51,220 --> 00:47:49,140

the hope that you want treatments to

1230

00:47:54,080 --> 00:47:51,230

work so there's a lot of factors at work

1231

00:47:56,090 --> 00:47:54,090

that lead to a subjective sense that

1232

00:47:56,600 --> 00:47:56,100

that the treatments are effective even

1233

00:47:59,210 --> 00:47:56,610

when

1234

00:48:00,740 --> 00:47:59,220

by any objective measures happened the

1235

00:48:03,380 --> 00:48:00,750

disease took the course that it takes

1236

00:48:04,850 --> 00:48:03,390

any way or the function of whatever is

1237

00:48:07,610 --> 00:48:04,860

being measured did not improve in any

1238

00:48:09,410 --> 00:48:07,620

way survival did not improve but people

1239

00:48:11,540 --> 00:48:09,420

still say they quote unquote feel better

1240

00:48:13,580 --> 00:48:11,550

and you know to them it's very

1241

00:48:16,040 --> 00:48:13,590

compelling it to convince people that

1242

00:48:20,060 --> 00:48:16,050

even that your own subjective experience

1243

00:48:21,890 --> 00:48:20,070

is misleading it takes a certain level

1244

00:48:23,270 --> 00:48:21,900

of skepticism to really appreciate that

1245

00:48:25,850 --> 00:48:23,280

and that's probably the hardest thing

1246

00:48:28,220 --> 00:48:25,860

that we deal with is you know trying to

1247

00:48:30,890 --> 00:48:28,230

convince people that your own personal

1248

00:48:33,230 --> 00:48:30,900

experience can actually be deceiving and

1249

00:48:35,840 --> 00:48:33,240

you can't rely upon it that we have to

1250

00:48:39,080 --> 00:48:35,850

trust you know these abstract numbers

1251
00:48:43,160 --> 00:48:39,090
that were generated by a study and not

1252
00:48:44,750 --> 00:48:43,170
your actual own experience but mean the

1253
00:48:47,060 --> 00:48:44,760
history clearly demonstrates that

1254
00:48:48,710 --> 00:48:47,070
personal experience is worse than

1255
00:48:51,350 --> 00:48:48,720
worthless in most cases it's misleading

1256
00:48:53,060 --> 00:48:51,360
again you go back to 100 years ago when

1257
00:48:54,470 --> 00:48:53,070
people were drinking radioactive tonics

1258
00:48:56,150 --> 00:48:54,480
well they thought they felt better for

1259
00:48:57,770 --> 00:48:56,160
two you know they thought that that was

1260
00:48:59,480 --> 00:48:57,780
the greatest thing and that they had

1261
00:49:02,030 --> 00:48:59,490
more energy and vitality all the while

1262
00:49:05,690 --> 00:49:02,040
they were slowly killing themselves yes

1263
00:49:07,670 --> 00:49:05,700

and in fact if rate if it was it weren't

1264

00:49:09,860 --> 00:49:07,680

discovered if radioactivity were let's

1265

00:49:12,320 --> 00:49:09,870

say we're harmless rather than then

1266

00:49:14,720 --> 00:49:12,330

actually harm full it probably would

1267

00:49:16,430 --> 00:49:14,730

still be around today as a tonic you

1268

00:49:18,290 --> 00:49:16,440

know these things never go away entirely

1269

00:49:19,880 --> 00:49:18,300

the only reason why it mean there's in

1270

00:49:22,250 --> 00:49:19,890

get this country the FDA had to actually

1271

00:49:24,020 --> 00:49:22,260

step in and ban radioactive times even

1272

00:49:26,300 --> 00:49:24,030

as late as the 1940s people were still

1273

00:49:30,020 --> 00:49:26,310

believing in it they had to actually ban

1274

00:49:31,880 --> 00:49:30,030

it but you know the Hiroshi Mundson of

1275

00:49:34,430 --> 00:49:31,890

the change in cultural ideas about the

1276

00:49:36,710 --> 00:49:34,440

dangers of of radiant radioactivity was

1277

00:49:38,660 --> 00:49:36,720

really what killed radioactive tonics

1278

00:49:40,880 --> 00:49:38,670

but here you have you know countless

1279

00:49:42,920 --> 00:49:40,890

people who absolutely believe that it

1280

00:49:45,170 --> 00:49:42,930

was helping them so they were totally

1281

00:49:47,870 --> 00:49:45,180

wrong they were profoundly demonstrably

1282

00:49:49,490 --> 00:49:47,880

wrong so you have to extrapolate that to

1283

00:49:52,280 --> 00:49:49,500

yourself and to everybody else if they

1284

00:49:55,460 --> 00:49:52,290

can be that wrong then anybody could be

1285

00:49:57,890 --> 00:49:55,470

wrong about any subjective experience of

1286

00:49:59,480 --> 00:49:57,900

their own treatment but we have this

1287

00:50:02,000 --> 00:49:59,490

sort of psychological effect where we

1288

00:50:04,040 --> 00:50:02,010

think we're like immune psychological

1289

00:50:05,810 --> 00:50:04,050

factors that affect everybody else in

1290

00:50:08,030 --> 00:50:05,820

the world that where everyone thinks

1291

00:50:09,800 --> 00:50:08,040

they're special in that guard oh yeah

1292

00:50:10,550 --> 00:50:09,810

other people can be deceived by this but

1293

00:50:13,400 --> 00:50:10,560

not me

1294

00:50:14,600 --> 00:50:13,410

they experience yeah no wrong you're a

1295

00:50:16,040 --> 00:50:14,610

human you got the same brain as

1296

00:50:17,780 --> 00:50:16,050

everybody else you could be deceived we

1297

00:50:20,060 --> 00:50:17,790

all could be deceived I could be if it's

1298

00:50:22,490 --> 00:50:20,070

just it's just human nature it's the

1299

00:50:24,290 --> 00:50:22,500

same concept as some people saying oh I

1300

00:50:26,900 --> 00:50:24,300

know there are fraudulent psychics out

1301

00:50:29,210 --> 00:50:26,910

there but mines real mines mines fine

1302

00:50:30,860 --> 00:50:29,220

it's just everybody every all the rest

1303

00:50:33,170 --> 00:50:30,870

of them are fraudulent and doing cold

1304

00:50:35,900 --> 00:50:33,180

reading but mine is absolutely spot-on

1305

00:50:38,480 --> 00:50:35,910

you know they don't know all those odds

1306

00:50:40,970 --> 00:50:38,490

like maybe frauds but not mine not mine

1307

00:50:43,130 --> 00:50:40,980

young yeah you mentioned side effects

1308

00:50:45,320 --> 00:50:43,140

just before and I recently had an

1309

00:50:47,720 --> 00:50:45,330

exchange by email with someone about

1310

00:50:50,810 --> 00:50:47,730

homeopathy which is one of my favorite

1311

00:50:52,760 --> 00:50:50,820

pants and his his point was well

1312

00:50:54,770 --> 00:50:52,770

obviously homeopathy is safer because

1313

00:50:56,930 --> 00:50:54,780

there are no side effects whereas

1314

00:50:58,820 --> 00:50:56,940

Orthodox conventional medicine has side

1315

00:51:01,280 --> 00:50:58,830

effects now I'm wondering if you can

1316

00:51:02,720 --> 00:51:01,290

just explain to the listeners why it is

1317

00:51:05,090 --> 00:51:02,730

that there are no side effects with

1318

00:51:06,740 --> 00:51:05,100

homeopathy and what it means when you

1319

00:51:08,450 --> 00:51:06,750

get side effects with conventional drugs

1320

00:51:11,330 --> 00:51:08,460

in other words it means that you're

1321

00:51:12,770 --> 00:51:11,340

getting an effect right so there's no

1322

00:51:16,040 --> 00:51:12,780

side effects from homeopathy because

1323

00:51:18,350 --> 00:51:16,050

there's no effects exactly no

1324

00:51:20,420 --> 00:51:18,360

physiological effects the difference

1325

00:51:21,830 --> 00:51:20,430

between a beneficial in effect a

1326

00:51:23,690 --> 00:51:21,840

beneficial effect in a side effect is

1327

00:51:25,670 --> 00:51:23,700

really just all context it's what's the

1328

00:51:27,890 --> 00:51:25,680

effect that you're trying to get at an

1329

00:51:30,380 --> 00:51:27,900

intervention and in the proper clinical

1330

00:51:32,630 --> 00:51:30,390

context some effects are desirable for

1331

00:51:34,580 --> 00:51:32,640

example if you're taking a drug to help

1332

00:51:37,370 --> 00:51:34,590

you fall asleep at night it has a

1333

00:51:39,830 --> 00:51:37,380

sedating effect that sedating effect is

1334

00:51:42,440 --> 00:51:39,840

the desired effect of that drug but if

1335

00:51:43,880 --> 00:51:42,450

you're taking a drug for pain and you

1336

00:51:46,220 --> 00:51:43,890

want to be functional at work us

1337

00:51:49,130 --> 00:51:46,230

sedating effect is it unwanted side

1338

00:51:50,150 --> 00:51:49,140

effect it's just the context of what

1339

00:51:51,830 --> 00:51:50,160

you're trying to get out of it there's

1340

00:51:54,980 --> 00:51:51,840

also this concept of a therapeutic range

1341

00:51:58,130 --> 00:51:54,990

that when we r you know developing drugs

1342

00:52:02,150 --> 00:51:58,140

we're looking for a chemical that will

1343

00:52:05,390 --> 00:52:02,160

have a dosing range in which we will get

1344

00:52:08,480 --> 00:52:05,400

a desired effect while undesired effects

1345

00:52:11,180 --> 00:52:08,490

will be minimal or tolerable and

1346

00:52:14,630 --> 00:52:11,190

then and there won't be or the chance of

1347

00:52:17,390 --> 00:52:14,640

any toxic effect is extremely minimal

1348

00:52:20,210 --> 00:52:17,400

and there's certain you know testing

1349

00:52:22,040 --> 00:52:20,220

that is a standard to go through to

1350

00:52:24,200 --> 00:52:22,050

ensure that there's this safe

1351

00:52:25,370 --> 00:52:24,210

therapeutic range for four

1352

00:52:26,900 --> 00:52:25,380

treatment because anything that has a

1353

00:52:29,810 --> 00:52:26,910

physiological effect on the body is

1354

00:52:32,270 --> 00:52:29,820

going to have a host of effects you know

1355

00:52:34,010 --> 00:52:32,280

we're always trying to get the effects

1356

00:52:36,140 --> 00:52:34,020

more and more specific but there's no

1357

00:52:38,300 --> 00:52:36,150

quote-unquote silver bullet or magic

1358

00:52:40,970 --> 00:52:38,310

bullet that has just the precise effect

1359

00:52:41,900 --> 00:52:40,980

that we want and no other effects that's

1360

00:52:43,220 --> 00:52:41,910

we're just not that's just a

1361

00:52:45,859 --> 00:52:43,230

technological thing which is not at that

1362

00:52:48,380 --> 00:52:45,869

level of technology and sometimes it's

1363

00:52:50,780 --> 00:52:48,390

just not possible i mean the body is a

1364

00:52:54,620 --> 00:52:50,790

complex evolved system you know so we

1365

00:52:57,140 --> 00:52:54,630

have for example you know one cell type

1366

00:52:59,570 --> 00:52:57,150

of receptor type may be evolutionarily

1367

00:53:02,230 --> 00:52:59,580

closely related to another that does

1368

00:53:05,690 --> 00:53:02,240

serves another purpose in the body so

1369

00:53:07,040 --> 00:53:05,700

when you make a drug to interact with

1370

00:53:08,810 --> 00:53:07,050

one receptor it's going to have some

1371

00:53:09,950 --> 00:53:08,820

effect on the other one as well even

1372

00:53:11,450 --> 00:53:09,960

though it's not the effect that you're

1373

00:53:13,160 --> 00:53:11,460

going for so they may be to some

1374

00:53:15,710 --> 00:53:13,170

inherent biological limitations on how

1375

00:53:18,980 --> 00:53:15,720

specific we can get in our effects as

1376

00:53:21,230 --> 00:53:18,990

well but homeopathy you asked about has

1377

00:53:23,750 --> 00:53:21,240

no effect or side effects because it's

1378

00:53:27,079 --> 00:53:23,760

literally nothing letters doing there

1379

00:53:29,510 --> 00:53:27,089

there yeah it's a little tough oh so

1380

00:53:31,730 --> 00:53:29,520

that's water it's sugar pulse yeah its

1381

00:53:34,730 --> 00:53:31,740

water placed upon a sugar pill so they

1382

00:53:37,910 --> 00:53:34,740

one of the concepts of homeopathy is the

1383

00:53:39,800 --> 00:53:37,920

so-called law of infinitesimal it's not

1384

00:53:43,310 --> 00:53:39,810

really a lot just something that Samuel

1385

00:53:45,140 --> 00:53:43,320

Hahnemann made up that says it's not it

1386

00:53:46,760 --> 00:53:45,150

hasn't been validated or verify 200

1387

00:53:49,130 --> 00:53:46,770

years of science has not found that it

1388

00:53:50,660 --> 00:53:49,140

actually exists in nature that it's

1389

00:53:52,910 --> 00:53:50,670

describing anything real in the world

1390

00:53:55,070 --> 00:53:52,920

it's just sucks this idea that Hana man

1391

00:53:58,220 --> 00:53:55,080

made up a couple hundred years ago that

1392

00:54:00,980 --> 00:53:58,230

the more you dilute a substance the more

1393

00:54:03,589 --> 00:54:00,990

powerful it becomes and that sounds

1394

00:54:05,540 --> 00:54:03,599

counterintuitive because it is because

1395

00:54:10,220 --> 00:54:05,550

it's not correct it's not an accurate

1396

00:54:11,900 --> 00:54:10,230

description of reality so yeah device

1397

00:54:14,750 --> 00:54:11,910

laws of science physics chemistry and

1398

00:54:16,790 --> 00:54:14,760

common-sense reason this time what

1399

00:54:19,820 --> 00:54:16,800

comment says does not always align with

1400

00:54:21,740 --> 00:54:19,830

reality but in this case it does so in

1401

00:54:23,060 --> 00:54:21,750

fact it's worse than just the notion

1402

00:54:25,940 --> 00:54:23,070

that the more you dilute something more

1403

00:54:28,160 --> 00:54:25,950

powerful it becomes even though the

1404

00:54:30,410 --> 00:54:28,170

notion of Avogadro's number was known at

1405

00:54:33,050 --> 00:54:30,420

the time of Hanuman either he he

1406

00:54:36,050 --> 00:54:33,060

personally didn't know about or did it

1407

00:54:38,030 --> 00:54:36,060

was relevant to his his scheme that when

1408

00:54:40,190 --> 00:54:38,040

you dilute past a certain point

1409

00:54:42,500 --> 00:54:40,200

there's a you know statistically no

1410

00:54:45,170 --> 00:54:42,510

active ingredient left zero not a single

1411

00:54:47,150 --> 00:54:45,180

molecule of whatever it is you started

1412

00:54:49,450 --> 00:54:47,160

out with is left so there's literally

1413

00:54:51,890 --> 00:54:49,460

nothing left there's nothing left behind

1414

00:54:55,280 --> 00:54:51,900

how that can't possibly have any

1415

00:54:57,410 --> 00:54:55,290

physiological effect there's a couple of

1416

00:54:58,700 --> 00:54:57,420

others are the magical beliefs woven

1417

00:55:00,710 --> 00:54:58,710

into homeopathy one is the law of

1418

00:55:02,630 --> 00:55:00,720

similar that like cures leak and that's

1419

00:55:05,570 --> 00:55:02,640

just sympathetic magic that's just plain

1420

00:55:08,030 --> 00:55:05,580

old superstition sympathetic you know

1421

00:55:11,720 --> 00:55:08,040

you grind up a rhinoceros horn and take

1422

00:55:13,190 --> 00:55:11,730

that to enhance male sexuality because

1423

00:55:15,380 --> 00:55:13,200

the horn looks like an erect penis

1424

00:55:16,490 --> 00:55:15,390

that's about the level of logic that

1425

00:55:18,350 --> 00:55:16,500

we're dealing with it's just it looks

1426

00:55:20,810 --> 00:55:18,360

like it therefore or it's similar to it

1427

00:55:23,870 --> 00:55:20,820

therefore it has some desired effect um

1428

00:55:25,610 --> 00:55:23,880

and then there's the other component of

1429

00:55:28,070 --> 00:55:25,620

it that you have to shake the remedy in

1430

00:55:29,630 --> 00:55:28,080

betwee dilution like 10 times in each of

1431

00:55:30,830 --> 00:55:29,640

the three planes and that's just ritual

1432

00:55:33,260 --> 00:55:30,840

magic you know it's just going through

1433

00:55:35,780 --> 00:55:33,270

some nonsensical ritual that's it is

1434

00:55:37,340 --> 00:55:35,790

that's a homeopathy is this the caution

1435

00:55:40,040 --> 00:55:37,350

though is that to instill the memory of

1436

00:55:41,840 --> 00:55:40,050

the active ingredient into the water

1437

00:55:43,790 --> 00:55:41,850

because they did talk about the water

1438

00:55:46,280 --> 00:55:43,800

having a memory don't they yeah but

1439

00:55:48,230 --> 00:55:46,290

that's a very new or recent concept

1440

00:55:49,730 --> 00:55:48,240

hatem and never wrote or talked about

1441

00:55:51,580 --> 00:55:49,740

water member that is the kind of thing

1442

00:55:53,870 --> 00:55:51,590

that so that's a very recent

1443

00:55:56,000 --> 00:55:53,880

rationalization to try to again lend

1444

00:55:58,580 --> 00:55:56,010

some scientific jargon to this

1445

00:56:01,640 --> 00:55:58,590

nonsensical notion homeopathy and this

1446

00:56:04,220 --> 00:56:01,650

is the equally absurd notion that water

1447

00:56:06,770 --> 00:56:04,230

molecules can retain the quote-unquote

1448

00:56:09,290 --> 00:56:06,780

memory of more complex molecules that

1449

00:56:12,080 --> 00:56:09,300

were previously diluted in it and but

1450

00:56:14,300 --> 00:56:12,090

there's no known you know mechanism of

1451
00:56:17,050 --> 00:56:14,310
physics or chemistry that can make that

1452
00:56:18,980 --> 00:56:17,060
happen studies that you know people

1453
00:56:20,900 --> 00:56:18,990
homeopaths and others trying to

1454
00:56:23,540 --> 00:56:20,910
demonstrate this effect a bit unable to

1455
00:56:26,090 --> 00:56:23,550
do so you know water is a liquid it's

1456
00:56:27,560 --> 00:56:26,100
fluid you know in the molecules even

1457
00:56:29,750 --> 00:56:27,570
though there may be some you know

1458
00:56:32,210 --> 00:56:29,760
transient relationships among the water

1459
00:56:34,760 --> 00:56:32,220
molecules they're extremely extremely

1460
00:56:36,890 --> 00:56:34,770
fleeting they certainly will not survive

1461
00:56:39,290 --> 00:56:36,900
for any long period of time they

1462
00:56:42,350 --> 00:56:39,300
wouldn't survive being you know

1463
00:56:44,180 --> 00:56:42,360

dissolved on a sugar pill eaten absorbed

1464

00:56:46,550 --> 00:56:44,190

into the bloodstream and getting to

1465

00:56:48,350 --> 00:56:46,560

whatever target in the body where

1466

00:56:51,950 --> 00:56:48,360

they're having their their action it's

1467

00:56:54,349 --> 00:56:51,960

really just explaining one bit of non

1468

00:56:56,329 --> 00:56:54,359

with an even more absurd bit of nonsense

1469

00:56:58,640 --> 00:56:56,339

there's zero science to it but it's not

1470

00:57:02,150 --> 00:56:58,650

about the signs to the homeopath it's

1471

00:57:05,510 --> 00:57:02,160

about using nonsensical scientific

1472

00:57:07,790 --> 00:57:05,520

jargon as plausible cover for the masses

1473

00:57:09,710 --> 00:57:07,800

that's what that's what about actually

1474

00:57:13,120 --> 00:57:09,720

it seems to me that water is that is the

1475

00:57:15,740 --> 00:57:13,130

new buzz can but the recent mind body

1476

00:57:18,500 --> 00:57:15,750

spirit that I went to everyone's selling

1477

00:57:20,599 --> 00:57:18,510

alkaline water these days or ionized

1478

00:57:22,760 --> 00:57:20,609

water and telling you that it will

1479

00:57:25,040 --> 00:57:22,770

replace minerals in your body and you'll

1480

00:57:26,870 --> 00:57:25,050

absorb it better and I tried to point

1481

00:57:28,849 --> 00:57:26,880

out to one of these people that if you

1482

00:57:32,359 --> 00:57:28,859

drink alkaline water it goes into your

1483

00:57:34,430 --> 00:57:32,369

gut which is pH to approximately and

1484

00:57:37,190 --> 00:57:34,440

that's no longer alkaline they didn't

1485

00:57:39,320 --> 00:57:37,200

want to hear about that right yeah don't

1486

00:57:42,140 --> 00:57:39,330

confuse him with this come on all right

1487

00:57:44,420 --> 00:57:42,150

sorry maybe that's the whole acid-base

1488

00:57:47,180 --> 00:57:44,430

thing is ridiculous I mean that our

1489

00:57:49,820 --> 00:57:47,190

bodies have very elaborate evolved

1490

00:57:51,520 --> 00:57:49,830

mechanisms to keep the pH of our tissue

1491

00:57:55,640 --> 00:57:51,530

and our blood in a very very narrow

1492

00:57:58,070 --> 00:57:55,650

optimal range and you have to drink

1493

00:58:00,650 --> 00:57:58,080

poison you know or really do something

1494

00:58:02,960 --> 00:58:00,660

extreme physiologically to overwhelm our

1495

00:58:04,370 --> 00:58:02,970

mechanism maintaining our own body pH so

1496

00:58:06,050 --> 00:58:04,380

any you know just drinking alkaline

1497

00:58:07,640 --> 00:58:06,060

water as you say first of all just mixes

1498

00:58:09,950 --> 00:58:07,650

with the acid in your stomach and it

1499

00:58:12,920 --> 00:58:09,960

doesn't have any effect on your body pH

1500

00:58:14,300 --> 00:58:12,930

but the water thing is that's one of

1501
00:58:16,370 --> 00:58:14,310
that's actually been around for a very

1502
00:58:18,440 --> 00:58:16,380
long time the concept of using water as

1503
00:58:21,290 --> 00:58:18,450
a healing mechanism that actually goes

1504
00:58:24,440 --> 00:58:21,300
way back to like just the original spas

1505
00:58:26,510 --> 00:58:24,450
where mineral water and and then later

1506
00:58:29,690 --> 00:58:26,520
carbonated water was given as a healthy

1507
00:58:31,880 --> 00:58:29,700
tonic and in fact that this soda pop

1508
00:58:35,829 --> 00:58:31,890
that we drink today essentially evolved

1509
00:58:38,089 --> 00:58:35,839
out of that tradition of a spas and

1510
00:58:40,820 --> 00:58:38,099
mineral a carbonated water spots that's

1511
00:58:43,339 --> 00:58:40,830
why you know many of the the popular

1512
00:58:45,950 --> 00:58:43,349
drinks have herbal type names like

1513
00:58:47,950 --> 00:58:45,960

ginger era el root beer even you know

1514

00:58:50,780 --> 00:58:47,960

coca-cola these are these are all

1515

00:58:53,540 --> 00:58:50,790

initially where health tonics no that's

1516

00:58:56,359 --> 00:58:53,550

not beverages they only became beverages

1517

00:59:00,079 --> 00:58:56,369

after refrigeration was invented and

1518

00:59:01,570 --> 00:59:00,089

then they tasted better right so just to

1519

00:59:03,890 --> 00:59:01,580

change the subject a little bit Steve

1520

00:59:05,930 --> 00:59:03,900

congratulations on your new president

1521

00:59:08,000 --> 00:59:05,940

elect we're all very happy about that

1522

00:59:10,370 --> 00:59:08,010

and it looks like this might be good for

1523

00:59:12,319 --> 00:59:10,380

science the Democrats seem to be a bit

1524

00:59:14,690 --> 00:59:12,329

more science friendly than the

1525

00:59:16,880 --> 00:59:14,700

Republicans and I believe Barack Obama

1526

00:59:20,020 --> 00:59:16,890

in one of his speeches said that he

1527

00:59:22,550 --> 00:59:20,030

wants to double the funding to the NIH

1528

00:59:24,470 --> 00:59:22,560

is it the case do you think it's going

1529

00:59:25,130 --> 00:59:24,480

to be good for science well I think it

1530

00:59:26,990 --> 00:59:25,140

would be better than the last

1531

00:59:29,660 --> 00:59:27,000

administration and the Bush

1532

00:59:31,540 --> 00:59:29,670

administration has the one thing that

1533

00:59:33,920 --> 00:59:31,550

they have done that has really

1534

00:59:38,780 --> 00:59:33,930

aggravated the scientific community is

1535

00:59:41,329 --> 00:59:38,790

subvert the integrity of science as a

1536

00:59:43,190 --> 00:59:41,339

way of informing government now no one

1537

00:59:44,599 --> 00:59:43,200

thinks that scientists should be running

1538

00:59:47,510 --> 00:59:44,609

the government or should be setting

1539

00:59:49,040 --> 00:59:47,520

policy and even policies that have a lot

1540

00:59:51,410 --> 00:59:49,050

to do with science or not determined

1541

00:59:54,890 --> 00:59:51,420

entirely by scientific information

1542

00:59:58,130 --> 00:59:54,900

itself you still have to make value

1543

00:59:59,630 --> 00:59:58,140

judgments allocate resources etc there's

1544

01:00:01,700 --> 00:59:59,640

lots of other issues that come into play

1545

01:00:05,210 --> 01:00:01,710

that make it just put a political

1546

01:00:07,069 --> 01:00:05,220

process but but but everyone agrees you

1547

01:00:10,400 --> 01:00:07,079

know the most reasonable people agree

1548

01:00:13,280 --> 01:00:10,410

that that accurate unbiased science

1549

01:00:15,380 --> 01:00:13,290

should inform government or policy

1550

01:00:17,540 --> 01:00:15,390

decisions and that you shouldn't go

1551
01:00:19,160 --> 01:00:17,550
backwards which seems what the British

1552
01:00:22,250 --> 01:00:19,170
administration true was trying to do is

1553
01:00:24,910 --> 01:00:22,260
start with the policy that they want and

1554
01:00:28,099 --> 01:00:24,920
then try to backfill the science or

1555
01:00:31,450 --> 01:00:28,109
subvert the science to that ideology or

1556
01:00:34,910 --> 01:00:31,460
to their policy agenda and they really

1557
01:00:37,910 --> 01:00:34,920
significantly downgraded the role that

1558
01:00:40,220 --> 01:00:37,920
science advisors play in you know the

1559
01:00:41,450 --> 01:00:40,230
creation of policy in both the

1560
01:00:43,339 --> 01:00:41,460
legislative and executive branch

1561
01:00:45,440 --> 01:00:43,349
actually is is happening over over the

1562
01:00:46,790 --> 01:00:45,450
last eight years and now and that was

1563
01:00:49,910 --> 01:00:46,800

happening at a time obviously when the

1564

01:00:51,620 --> 01:00:49,920

Republicans were in power and you know

1565

01:00:53,480 --> 01:00:51,630

there were certain specific issues where

1566

01:00:54,950 --> 01:00:53,490

you know they didn't like what the

1567

01:00:57,020 --> 01:00:54,960

science was saying so they had a

1568

01:00:59,809 --> 01:00:57,030

separate agenda like a global warming

1569

01:01:00,890 --> 01:00:59,819

for so that sort of earned them the

1570

01:01:02,660 --> 01:01:00,900

reputation and you know as you know

1571

01:01:05,089 --> 01:01:02,670

chris mooney in fact wrote the book the

1572

01:01:07,099 --> 01:01:05,099

republican war on science which pretty

1573

01:01:09,890 --> 01:01:07,109

much says that flat out that's what they

1574

01:01:12,050 --> 01:01:09,900

think is going on taking a broader view

1575

01:01:15,319 --> 01:01:12,060

i don't think that that is an issue that

1576

01:01:17,450 --> 01:01:15,329

is unique to conservatives or two

1577

01:01:19,670 --> 01:01:17,460

republicans i think that all ideologies

1578

01:01:19,910 --> 01:01:19,680

tend to do that certainly both sides of

1579

01:01:22,520 --> 01:01:19,920

the

1580

01:01:26,240 --> 01:01:22,530

spectrum in this country have to varying

1581

01:01:29,930 --> 01:01:26,250

degrees both candidates McCain and Obama

1582

01:01:31,760 --> 01:01:29,940

vowed in there quite the responses to

1583

01:01:34,030 --> 01:01:31,770

the science 2008 questions that were

1584

01:01:36,110 --> 01:01:34,040

posed to them and on the campaign trail

1585

01:01:38,000 --> 01:01:36,120

distanced themselves from the bush

1586

01:01:39,920 --> 01:01:38,010

policy they both promised more funding

1587

01:01:42,290 --> 01:01:39,930

for NASA more funding for you know for

1588

01:01:44,930 --> 01:01:42,300

research more support for scientific

1589

01:01:48,050 --> 01:01:44,940

ation restoring the integrity of science

1590

01:01:49,430 --> 01:01:48,060

so they both work we're saying the same

1591

01:01:50,900 --> 01:01:49,440

kind of thing so I think that we were

1592

01:01:53,690 --> 01:01:50,910

going to be moving away from the bush

1593

01:01:57,680 --> 01:01:53,700

policy and the bush would a way of

1594

01:01:59,720 --> 01:01:57,690

dealing with science regardless but it

1595

01:02:01,160 --> 01:01:59,730

certainly is much more of a significant

1596

01:02:03,410 --> 01:02:01,170

and clean break by switching to the

1597

01:02:06,790 --> 01:02:03,420

other political partying and we'll see

1598

01:02:11,890 --> 01:02:06,800

although I was yesterday I was handed a

1599

01:02:13,370 --> 01:02:11,900

letter written by Barack Obama to

1600

01:02:16,430 --> 01:02:13,380

chiropractors in the United States

1601
01:02:18,260 --> 01:02:16,440
promising to integrate more chiropractic

1602
01:02:20,330 --> 01:02:18,270
care into the Veterans Affairs system

1603
01:02:24,380 --> 01:02:20,340
and 22 into the health care system

1604
01:02:27,680 --> 01:02:24,390
general so good nice that's not good

1605
01:02:29,990 --> 01:02:27,690
news so then the alternative medicine is

1606
01:02:32,720 --> 01:02:30,000
the one area that we're pseudoscience

1607
01:02:33,860 --> 01:02:32,730
has found bipartisan support in this

1608
01:02:35,870 --> 01:02:33,870
country they really know how to work

1609
01:02:38,090 --> 01:02:35,880
both sides of the aisle extremely well I

1610
01:02:39,590 --> 01:02:38,100
haven't seen an advantage to one side or

1611
01:02:43,040 --> 01:02:39,600
the other it's just you just deal with

1612
01:02:45,260 --> 01:02:43,050
different issues one side of them you've

1613
01:02:46,670 --> 01:02:45,270

got you've got Oprah as well and she's

1614

01:02:48,620 --> 01:02:46,680

the most powerful person in the country

1615

01:02:50,570 --> 01:02:48,630

isn't she I mean when she endorses

1616

01:02:54,170 --> 01:02:50,580

something like Jenny McCarthy everyone

1617

01:02:56,360 --> 01:02:54,180

believes it so she certainly is a media

1618

01:02:59,060 --> 01:02:56,370

powerhouse and that gives her a

1619

01:03:00,440 --> 01:02:59,070

tremendous amount of power but if you're

1620

01:03:02,000 --> 01:03:00,450

if you're a buzz on Oprah's Book Club

1621

01:03:03,290 --> 01:03:02,010

and it's an instant bestseller I mean

1622

01:03:05,570 --> 01:03:03,300

that's that's the kind of power that she

1623

01:03:07,460 --> 01:03:05,580

has and unfortunately she has chosen to

1624

01:03:10,610 --> 01:03:07,470

use that power for evil instead of good

1625

01:03:13,640 --> 01:03:10,620

if she has chosen to promote super

1626

01:03:16,310 --> 01:03:13,650

science quackery and and nonsense at

1627

01:03:18,890 --> 01:03:16,320

every chance she gets Jenny McCarthy

1628

01:03:21,710 --> 01:03:18,900

just yeah the secret Jenny McCarthy it's

1629

01:03:23,210 --> 01:03:21,720

all it's all bad foods she's done

1630

01:03:25,700 --> 01:03:23,220

probably more than any under any other

1631

01:03:27,890 --> 01:03:25,710

individual to promote you know one suit

1632

01:03:30,890 --> 01:03:27,900

o science and Tom Cruise as well we

1633

01:03:32,870 --> 01:03:30,900

can't forgive her for that through

1634

01:03:33,680 --> 01:03:32,880

although I do think that you know Tom

1635

01:03:36,350 --> 01:03:33,690

Cruise

1636

01:03:39,140 --> 01:03:36,360

escapades probably hurts an italic

1637

01:03:41,470 --> 01:03:39,150

anything else I mean anyone who thought

1638

01:03:44,480 --> 01:03:41,480

maybe psychology was a little wonky

1639

01:03:48,440 --> 01:03:44,490

after seeing Tom Cruise was probably

1640

01:03:50,480 --> 01:03:48,450

convinced of it removed yeah you're

1641

01:03:53,450 --> 01:03:50,490

probably right okay Steve semi final

1642

01:03:55,820 --> 01:03:53,460

question is a tough one is skeptical

1643

01:03:57,320 --> 01:03:55,830

dirtier words an atheist and what do you

1644

01:04:00,170 --> 01:03:57,330

think will make the concept of being a

1645

01:04:03,020 --> 01:04:00,180

skeptic more socially acceptable uh in

1646

01:04:05,840 --> 01:04:03,030

terms of public perception I think that

1647

01:04:07,220 --> 01:04:05,850

atheists has it far more at least in

1648

01:04:11,020 --> 01:04:07,230

this country of a negative connotation

1649

01:04:13,760 --> 01:04:11,030

than skeptic you can in a lot of

1650

01:04:16,700 --> 01:04:13,770

situations and contexts you can call

1651
01:04:19,000 --> 01:04:16,710
yourself a skeptic and that may provoke

1652
01:04:21,290 --> 01:04:19,010
a positive response in some people a

1653
01:04:23,840 --> 01:04:21,300
confused or sort of questioning response

1654
01:04:26,150 --> 01:04:23,850
and others and you know I think a

1655
01:04:28,220 --> 01:04:26,160
negative response you know if it's

1656
01:04:29,660 --> 01:04:28,230
confused with the word cynic that's sort

1657
01:04:31,520 --> 01:04:29,670
of the biggest ones that we running that

1658
01:04:34,010 --> 01:04:31,530
people confuse skepticism with cynicism

1659
01:04:36,440 --> 01:04:34,020
and then really only among true

1660
01:04:38,000 --> 01:04:36,450
believers who have run afoul of the

1661
01:04:41,120 --> 01:04:38,010
skeptical movement do they actually try

1662
01:04:43,330 --> 01:04:41,130
to make skeptic into a bad word but uh

1663
01:04:47,000 --> 01:04:43,340

at least in this kind of United States

1664

01:04:51,560 --> 01:04:47,010

you know atheism is is it is definitely

1665

01:04:53,450 --> 01:04:51,570

I mean and I gets thrown around a lot as

1666

01:04:55,940 --> 01:04:53,460

a pejorative as a way of sort of

1667

01:04:58,640 --> 01:04:55,950

branding some you know a bad person it

1668

01:05:00,890 --> 01:04:58,650

probably would be impossible for a an

1669

01:05:02,540 --> 01:05:00,900

open atheist I would say to get it2

1670

01:05:04,910 --> 01:05:02,550

national any kind of national office in

1671

01:05:07,160 --> 01:05:04,920

this country at least in the environment

1672

01:05:08,630 --> 01:05:07,170

probably even more so more difficult

1673

01:05:12,590 --> 01:05:08,640

than somebody who is openly homosexual

1674

01:05:16,670 --> 01:05:12,600

for example well it's bad it's really

1675

01:05:20,210 --> 01:05:16,680

bad so but you know there are approach

1676

01:05:21,860 --> 01:05:20,220

to skepticism is what we call scientific

1677

01:05:25,490 --> 01:05:21,870

skepticism where about promoting science

1678

01:05:28,520 --> 01:05:25,500

and education and critical thinking we

1679

01:05:32,630 --> 01:05:28,530

don't deal directly with religious faith

1680

01:05:34,640 --> 01:05:32,640

you know we deal with religion as when

1681

01:05:36,290 --> 01:05:34,650

it interferes with science you know and

1682

01:05:38,150 --> 01:05:36,300

when it intrudes upon science which they

1683

01:05:41,120 --> 01:05:38,160

happily do all the time so it's really

1684

01:05:42,740 --> 01:05:41,130

not that much of a limitation but if

1685

01:05:44,690 --> 01:05:42,750

someone says I have a personal faith in

1686

01:05:46,040 --> 01:05:44,700

God not based upon any evidence or logic

1687

01:05:47,269 --> 01:05:46,050

or anything I just reserve it for myself

1688

01:05:48,729 --> 01:05:47,279

I say that congratulate

1689

01:05:51,620 --> 01:05:48,739

good for you hey what can I say about

1690

01:05:53,539 --> 01:05:51,630

there's nothing to say to address that

1691

01:05:55,099 --> 01:05:53,549

it's you now you're a great at best

1692

01:05:57,469 --> 01:05:55,109

you're in the realm of a philosophy

1693

01:05:59,569 --> 01:05:57,479

which I find interesting it's just not

1694

01:06:03,559 --> 01:05:59,579

something you know that that we deal

1695

01:06:05,839 --> 01:06:03,569

with directly and there's a bit of a

1696

01:06:07,459 --> 01:06:05,849

split in the skeptical movement again on

1697

01:06:10,429 --> 01:06:07,469

that issue whether or not we should

1698

01:06:13,130 --> 01:06:10,439

address faith issue directing a pure

1699

01:06:15,499 --> 01:06:13,140

faith issues as if they were any claim

1700

01:06:18,079 --> 01:06:15,509

or do we make this distinct between

1701

01:06:21,559 --> 01:06:18,089

science or evidence-based claims and and

1702

01:06:22,909 --> 01:06:21,569

personal faith and we've chosen for a

1703

01:06:24,199 --> 01:06:22,919

variety of reasons mainly because it's

1704

01:06:25,759 --> 01:06:24,209

what we're interested in and it's I

1705

01:06:28,999 --> 01:06:25,769

think we just where our talents lie just

1706

01:06:30,709 --> 01:06:29,009

to focus on the science and yeah right I

1707

01:06:32,419 --> 01:06:30,719

Jack shake right overweight even the

1708

01:06:34,009 --> 01:06:32,429

word religion because that it creates a

1709

01:06:35,899 --> 01:06:34,019

bit of a misconception we actually do

1710

01:06:39,019 --> 01:06:35,909

deal with religion when religion

1711

01:06:40,880 --> 01:06:39,029

intrudes upon science show creationism

1712

01:06:42,739 --> 01:06:40,890

about the most obvious example yeah

1713

01:06:44,209 --> 01:06:42,749

that's a religion based pseudoscience

1714

01:06:46,819 --> 01:06:44,219

will absolutely deal with all of the

1715

01:06:48,859 --> 01:06:46,829

claims and shenanigans of intelligent as

1716

01:06:50,179 --> 01:06:48,869

a bouns and creationists but we don't

1717

01:06:51,919 --> 01:06:50,189

deal with faith because faith by

1718

01:06:53,630 --> 01:06:51,929

definitions outside the rump science as

1719

01:06:55,849 --> 01:06:53,640

long as you understand what it is and

1720

01:06:57,679 --> 01:06:55,859

keep it separate from science so it

1721

01:07:01,039 --> 01:06:57,689

actually puts that into a much much

1722

01:07:02,989 --> 01:07:01,049

smaller box than us you know we can do

1723

01:07:04,640 --> 01:07:02,999

with really anyone who makes any kind of

1724

01:07:06,829 --> 01:07:04,650

claim we're anything we're lot or

1725

01:07:09,380 --> 01:07:06,839

evidence can write out to bear if you

1726

01:07:12,079 --> 01:07:09,390

remove yourself entirely from any sort

1727

01:07:13,640 --> 01:07:12,089

of logical or evidentiary basis and it's

1728

01:07:17,089 --> 01:07:13,650

just a personal statement of faith well

1729

01:07:18,349 --> 01:07:17,099

that's your freedom to believe whatever

1730

01:07:19,909 --> 01:07:18,359

you want we don't really care what

1731

01:07:22,399 --> 01:07:19,919

people believe we want them to

1732

01:07:25,759 --> 01:07:22,409

understand and to think critically but I

1733

01:07:27,709 --> 01:07:25,769

we don't concern ourselves with what

1734

01:07:30,559 --> 01:07:27,719

people believe alright well thank you

1735

01:07:32,390 --> 01:07:30,569

very much for your time Steve and as hey

1736

01:07:33,469 --> 01:07:32,400

it was a lot of fun too ya know it's

1737

01:07:35,029 --> 01:07:33,479

great well we've we've got a little

1738

01:07:37,149 --> 01:07:35,039

present for you which is currently on

1739

01:07:40,249 --> 01:07:37,159

its way probably on a plane right now

1740

01:07:42,499 --> 01:07:40,259

we've sent you the great skeptic CD 2

1741

01:07:45,649 --> 01:07:42,509

which is the Australian skeptics journal

1742

01:07:48,979 --> 01:07:45,659

on DVD searchable sorry searchable CD

1743

01:07:51,019 --> 01:07:48,989

we've also sent you a DVD called the

1744

01:07:54,409 --> 01:07:51,029

rhyme keeper which is 26 original

1745

01:07:58,489 --> 01:07:54,419

Australian poems and Richard Saunders

1746

01:08:00,529 --> 01:07:58,499

let DVD the fold along origami DVD

1747

01:08:01,100 --> 01:08:00,539

excellent well thanks so much for having

1748

01:08:03,590 --> 01:08:01,110

me it was a

1749

01:08:05,450 --> 01:08:03,600

a lot of fun thanks very much Damon we

1750

01:08:08,560 --> 01:08:05,460

can't wait to see you in 2010 in

1751

01:08:10,850 --> 01:08:08,570

Australia finally very exciting we're

1752

01:08:19,580 --> 01:08:10,860

all looking forward to it that will be

1753

01:08:22,340 --> 01:08:19,590

great you're listening to the skeptic

1754

01:08:25,400 --> 01:08:22,350

zone I'm Brian Dunning from sceptile

1755

01:08:28,280 --> 01:08:25,410

calm when I'm not tuned into the skeptic

1756

01:08:30,890 --> 01:08:28,290

zone I'm recording thus kept I'd podcast

1757

01:08:32,710 --> 01:08:30,900

doing what I can to further knowledge by

1758

01:08:35,210 --> 01:08:32,720

blasting away the widespread

1759

01:08:37,970 --> 01:08:35,220

pseudo-sciences that infect popular

1760

01:08:40,130 --> 01:08:37,980

culture I've also compiled a 40 minute

1761

01:08:43,370 --> 01:08:40,140

educational video on critical thinking

1762

01:08:47,090 --> 01:08:43,380

called here be dragons at here be

1763

01:08:50,090 --> 01:08:47,100

dragons movie.com I hope you check those

1764

01:08:55,160 --> 01:08:50,100

out and I hope you enjoy the skeptic

1765

01:08:58,910 --> 01:08:55,170

zone death from the skies these are the

1766

01:09:00,530 --> 01:08:58,920

ways the world will end wow that sounds

1767

01:09:03,140 --> 01:09:00,540

pretty dreadful but it's not it's

1768

01:09:05,570 --> 01:09:03,150

fabulous it's the new book by dr. Phil

1769

01:09:07,970 --> 01:09:05,580

Plait the bad astronomer death from the

1770

01:09:10,220 --> 01:09:07,980

skies a scientific look at the way the

1771

01:09:12,050 --> 01:09:10,230

world will end yeah it still sounds a

1772

01:09:14,030 --> 01:09:12,060

bit the grim doesn't it know but it's a

1773

01:09:15,590 --> 01:09:14,040

fabulous read I'm about halfway through

1774

01:09:17,450 --> 01:09:15,600

it and I want to keep reading it right

1775

01:09:19,700 --> 01:09:17,460

now but I better not as I'm making this

1776

01:09:22,130 --> 01:09:19,710

announcement death from the skies you

1777

01:09:24,410 --> 01:09:22,140

can win a copy of this fabulous book for

1778

01:09:25,970 --> 01:09:24,420

yourself we're looking for a funny or

1779

01:09:28,900 --> 01:09:25,980

interesting caption for one of our

1780

01:09:31,820 --> 01:09:28,910

t-shirts some you do of skepticism

1781

01:09:37,310 --> 01:09:31,830

podcasting something like that send your

1782

01:09:39,560 --> 01:09:37,320

ideas to Kylie at skeptic zone TV and

1783

01:09:41,870 --> 01:09:39,570

the winner will be announced in our show

1784

01:09:45,020 --> 01:09:41,880

in two weeks time it'll be early

1785

01:09:48,080 --> 01:09:45,030

December but if you can't wait run out

1786

01:09:53,810 --> 01:09:48,090

and buy yourself a copy of birth from

1787

01:09:56,900 --> 01:09:53,820

the skies and a new site on the internet

1788

01:09:58,850 --> 01:09:56,910

young Australian skeptics just google

1789

01:10:02,840 --> 01:09:58,860

young Australian skeptics and see a new

1790

01:10:05,330 --> 01:10:02,850

site dedicated to a young Australian

1791

01:10:08,450 --> 01:10:05,340

skeptics with interesting articles blogs

1792

01:10:11,990 --> 01:10:08,460

pogs frogs and all sorts of other things

1793

01:10:14,180 --> 01:10:12,000

young Australian skeptics well worth a

1794

01:10:18,050 --> 01:10:14,190

look especially if you're a young

1795

01:10:23,660 --> 01:10:18,060

young Australian skeptic I think I'll

1796

01:10:31,580 --> 01:10:23,670

stop now join us now for drinking

1797

01:10:33,410 --> 01:10:31,590

skeptically in the think tank Sydney's

1798

01:10:35,390 --> 01:10:33,420

Chinatown and i'm here with Philip

1799

01:10:38,150 --> 01:10:35,400

Peters from the skeptics committee hello

1800

01:10:40,850 --> 01:10:38,160

Philip hi Richard and Richard on up hi

1801

01:10:44,120 --> 01:10:40,860

Rachel hi Ricardo and we've all just

1802

01:10:45,800 --> 01:10:44,130

spent a couple of happy hours or three

1803

01:10:47,510 --> 01:10:45,810

or four actually actually yes at the

1804

01:10:48,860 --> 01:10:47,520

mind-body wallet festival what did you

1805

01:10:51,200 --> 01:10:48,870

think of the vessel of us here Rachel

1806

01:10:53,870 --> 01:10:51,210

well it was the same all voiced a

1807

01:10:56,479 --> 01:10:53,880

different day I'd be a sudden it

1808

01:10:59,120 --> 01:10:56,489

same sort of mismatch of people

1809

01:11:03,020 --> 01:10:59,130

espousing what you can only really say

1810

01:11:07,560 --> 01:11:03,030

is [h__h] I guess we had a couple of

1811

01:11:11,459 --> 01:11:09,240

yeah of course you know it's the usual

1812

01:11:14,189 --> 01:11:11,469

suspects again there was life blood

1813

01:11:15,899 --> 01:11:14,199

analysis once more and inherent alisis

1814

01:11:18,450 --> 01:11:15,909

with lots and lots of hair analysis

1815

01:11:20,700 --> 01:11:18,460

which is apparently done using quantum

1816

01:11:23,189 --> 01:11:20,710

physics quantum physics another machine

1817

01:11:25,589 --> 01:11:23,199

that utilizes quantum physics to do my

1818

01:11:28,680 --> 01:11:25,599

hair analysis yes to test for allergies

1819

01:11:32,399 --> 01:11:28,690

to throw yeah I was pretty impressive

1820

01:11:35,790 --> 01:11:32,409

machine wasn't it all right darling yeah

1821

01:11:37,410 --> 01:11:35,800

what did it had it had a dial that would

1822

01:11:40,470 --> 01:11:37,420

move depending on whether you were

1823

01:11:42,810 --> 01:11:40,480

allergic to a compound or not it had a

1824

01:11:45,390 --> 01:11:42,820

and like that we have three red LEDs

1825

01:11:47,520 --> 01:11:45,400

that would blow if you allergic to

1826

01:11:51,000 --> 01:11:47,530

something and over 300 different

1827

01:11:52,680 --> 01:11:51,010

compounds in little vials that could use

1828

01:11:55,620 --> 01:11:52,690

to identify where your allergies lie

1829

01:11:59,610 --> 01:11:55,630

just extraordinary yeah what did you

1830

01:12:02,940 --> 01:11:59,620

think of it good well what was one of

1831

01:12:04,620 --> 01:12:02,950

them was different this year I saw at

1832

01:12:06,690 --> 01:12:04,630

least three vendors see who didn't

1833

01:12:08,370 --> 01:12:06,700

believe anything around them don't just

1834

01:12:12,830 --> 01:12:08,380

say because I will set a guy the kinetic

1835

01:12:15,300 --> 01:12:12,840

art or just food basically yeah yeah so

1836

01:12:19,860 --> 01:12:15,310

there was some beautiful life work and

1837

01:12:22,470 --> 01:12:19,870

then wind catches swirly things yes just

1838

01:12:24,090 --> 01:12:22,480

which is wonderful and close to yes one

1839

01:12:26,820 --> 01:12:24,100

thing I did notice I don't know it

1840

01:12:29,910 --> 01:12:26,830

wasn't such a big thing in May but there

1841

01:12:31,620 --> 01:12:29,920

was a lot of this special water this

1842

01:12:35,010 --> 01:12:31,630

time we were there was a link more than

1843

01:12:39,390 --> 01:12:35,020

there was at least for magic magic water

1844

01:12:43,890 --> 01:12:39,400

one water device work because the water

1845

01:12:46,050 --> 01:12:43,900

was forced through a some sort of magic

1846

01:12:48,540 --> 01:12:46,060

filter with a crystal that's right yes

1847

01:12:50,729 --> 01:12:48,550

and then that broke up the mulch

1848

01:12:52,950 --> 01:12:50,739

rearrange the molecules rearranged

1849

01:12:54,930 --> 01:12:52,960

monetize we have one at free energized

1850

01:12:57,510 --> 01:12:54,940

order and the next person told us that

1851

01:13:02,399 --> 01:12:57,520

they're filtered filtration system used

1852

01:13:05,339 --> 01:13:02,409

magnets which converted far-infrared to

1853

01:13:08,910 --> 01:13:05,349

energize the water no she actually said

1854

01:13:10,589 --> 01:13:08,920

it use magnets and fart in technology to

1855

01:13:12,209 --> 01:13:10,599

re-energize the water that's when I said

1856

01:13:14,910 --> 01:13:12,219

well you're just making this up aren't

1857

01:13:19,960 --> 01:13:14,920

you if you did say that

1858

01:13:23,590 --> 01:13:19,970

yeah go ahead yeah yeah can I please

1859

01:13:28,840 --> 01:13:23,600

have a big dumpling

1860

01:13:28,850 --> 01:13:33,510

the poor trips with black pencil

1861

01:13:33,520 --> 01:13:39,669

and it's just a stir fry vegetables

1862

01:13:45,020 --> 01:13:42,199

ordering for me too yeah do you want a

1863

01:13:46,819 --> 01:13:45,030

hole now yeah we can share two or

1864

01:13:48,830 --> 01:13:46,829

something we could all just dig in well

1865

01:13:52,370 --> 01:13:48,840

because I've ordered I wanted to see

1866

01:13:54,859 --> 01:13:52,380

lots of dumplings ribs which twin tower

1867

01:13:56,540 --> 01:13:54,869

and then that sounds good to me and

1868

01:13:58,020 --> 01:13:56,550

maybe your fried rice but it's how we

1869

01:14:02,399 --> 01:13:58,030

agony

1870

01:14:06,359 --> 01:14:02,409

yep oh yes lovely I used to recording

1871

01:14:09,569 --> 01:14:06,369

yeah now listen is once an hour what

1872

01:14:11,490 --> 01:14:09,579

we're having for dinner yes this car

1873

01:14:13,820 --> 01:14:11,500

like they are still file three four cats

1874

01:14:15,500 --> 01:14:13,830

can be quite space

1875

01:14:17,180 --> 01:14:15,510

anyway see if there are lots of

1876

01:14:20,450 --> 01:14:17,190

different sorts of magical water on and

1877

01:14:23,240 --> 01:14:20,460

I try not to lose my temper I really

1878

01:14:24,500 --> 01:14:23,250

don't but towards the end when the guy

1879

01:14:26,480 --> 01:14:24,510

was saying look at this and I was

1880

01:14:28,460 --> 01:14:26,490

reading about the consciousness of water

1881

01:14:30,620 --> 01:14:28,470

i jus said this is just ridiculous but

1882

01:14:32,780 --> 01:14:30,630

reaches that's based on the the German

1883

01:14:36,840 --> 01:14:32,790

web for food which is leaving sweetie

1884

01:14:42,090 --> 01:14:39,540

I should know I know Jim but that's when

1885

01:14:45,810 --> 01:14:42,100

he because after he left and he actually

1886

01:14:48,870 --> 01:14:45,820

showed me the next page of that book

1887

01:14:51,270 --> 01:14:48,880

yeah where it was talking about oh my

1888

01:14:52,260 --> 01:14:51,280

god I didn't tell you this and it was

1889

01:14:56,460 --> 01:14:52,270

talking about something called the

1890

01:14:58,620 --> 01:14:56,470

Oxford studies where milk that was

1891

01:15:01,680 --> 01:14:58,630

analyzed biochemically and chemically

1892

01:15:04,590 --> 01:15:01,690

before pasteurization showed a different

1893

01:15:06,510 --> 01:15:04,600

profile after pasteurization and this

1894

01:15:09,060 --> 01:15:06,520

allegedly broke down the consciousness

1895

01:15:11,760 --> 01:15:09,070

of the milk and so a calf that was given

1896

01:15:13,080 --> 01:15:11,770

milk that was not pasteurized was fine

1897

01:15:15,450 --> 01:15:13,090

and one that was given look there was

1898

01:15:18,480 --> 01:15:15,460

pasteurized I'd and this was because the

1899

01:15:20,820 --> 01:15:18,490

body could no longer interpret the milk

1900

01:15:22,800 --> 01:15:20,830

and this guy said to me and I felt sorry

1901

01:15:25,650 --> 01:15:22,810

for him I mean he's had really you've

1902

01:15:27,480 --> 01:15:25,660

had cancer and then he recovered but he

1903

01:15:30,150 --> 01:15:27,490

correlated that with his alkaline water

1904

01:15:33,270 --> 01:15:30,160

and he was a nice old guy who lives on a

1905

01:15:35,910 --> 01:15:33,280

farm and grows organic veggies I know I

1906

01:15:38,190 --> 01:15:35,920

know where the point is if some people

1907

01:15:40,710 --> 01:15:38,200

actually believe what ru is saying it's

1908

01:15:43,620 --> 01:15:40,720

not using his wacko method and go off

1909

01:15:45,720 --> 01:15:43,630

their real medicine that is nice and

1910

01:15:51,060 --> 01:15:45,730

deluded as he is he is doing real harm

1911

01:15:54,000 --> 01:15:51,070

has promised a cure potential sir oh

1912

01:15:56,790 --> 01:15:54,010

yeah yeah yeah his talk which was in the

1913

01:16:03,540 --> 01:15:56,800

speaker's corner or whatever was how

1914

01:16:05,100 --> 01:16:03,550

would a computer and curable please did

1915

01:16:07,350 --> 01:16:05,110

you want caffeine free I don't really

1916

01:16:13,000 --> 01:16:07,360

mind you have it without oh yeah yes no

1917

01:16:20,339 --> 01:16:15,279

suddenly there's money everywhere that's

1918

01:16:23,020 --> 01:16:20,349

your trade right goodbye Thank You Emily

1919

01:16:26,470 --> 01:16:23,030

now the next mind-body what festival

1920

01:16:29,140 --> 01:16:26,480

will be in some may I guess in 2009 art

1921

01:16:31,270 --> 01:16:29,150

certainly be here I hope you guys come

1922

01:16:33,100 --> 01:16:31,280

along well yeah well I hope all our

1923

01:16:35,350 --> 01:16:33,110

listeners come along to you come along

1924

01:16:36,839 --> 01:16:35,360

and recognize Richard and make faces at

1925

01:16:40,779 --> 01:16:36,849

him which happened a little bit today

1926

01:16:43,209 --> 01:16:40,789

yeah some someone came up and said mr.

1927

01:16:46,870 --> 01:16:43,219

skeptic which is also thank you which is

1928

01:16:48,490 --> 01:16:46,880

always a new dication they didn't help

1929

01:16:51,399 --> 01:16:48,500

that you were wearing a tan 6 t-shirt

1930

01:16:55,390 --> 01:16:51,409

that says in huge bright yellow letters

1931

01:16:58,509 --> 01:16:55,400

I skeptic and I was wearing piggy

1932

01:17:00,339 --> 01:16:58,519

earrings [h__h] this earring yeah we

1933

01:17:02,020 --> 01:17:00,349

still that a little bit we stood out of

1934

01:17:05,040 --> 01:17:02,030

it there were some some positive

1935

01:17:08,790 --> 01:17:05,050

comments really

1936

01:17:11,220 --> 01:17:08,800

yes yes a gang of people spend either

1937

01:17:12,750 --> 01:17:11,230

rips read my t-shirt or recognized who I

1938

01:17:16,080 --> 01:17:12,760

was so that was quite fun I gave them

1939

01:17:19,290 --> 01:17:17,790

yep

1940

01:17:20,790 --> 01:17:19,300

what's a lovely evening here in

1941

01:17:22,169 --> 01:17:20,800

Chinatown so I guess we will look

1942

01:17:26,580 --> 01:17:22,179

forward to our dinner which we just

1943

01:17:47,220 --> 01:17:26,590

ordered cuz we're wait out aren't we

1944

01:17:52,330 --> 01:17:50,260

Stefan I I just can't describe to you

1945

01:17:53,740 --> 01:17:52,340

how much I enjoy doing this show and

1946

01:17:55,120 --> 01:17:53,750

then would think for me is because I

1947

01:17:57,490 --> 01:17:55,130

only sort of do the beginning in the end

1948

01:17:59,020 --> 01:17:57,500

it's just that long wait in between yeah

1949

01:18:00,490 --> 01:17:59,030

cuz I go sit here in the studio while

1950

01:18:02,080 --> 01:18:00,500

you do all these things all around the

1951

01:18:03,850 --> 01:18:02,090

place I just gotta wait and wait wait

1952

01:18:05,500 --> 01:18:03,860

just to do the clothes but it's great to

1953

01:18:06,940 --> 01:18:05,510

be back I'm glad you waited around I was

1954

01:18:09,250 --> 01:18:06,950

a good episode of it was a great episode

1955

01:18:11,290 --> 01:18:09,260

offers Carl what a legend what else

1956

01:18:13,060 --> 01:18:11,300

legend and what big news hey what about

1957

01:18:14,680 --> 01:18:13,070

that big news about the skeptics guide

1958

01:18:17,560 --> 01:18:14,690

to the universe people coming out here

1959

01:18:19,420 --> 01:18:17,570

are me here november 2010 all you

1960

01:18:21,790 --> 01:18:19,430

listeners out there look out I mean it

1961

01:18:24,040 --> 01:18:21,800

is it's kind of like the zone is is like

1962

01:18:25,840 --> 01:18:24,050

a vortex just sort of pulling skeptics

1963

01:18:28,150 --> 01:18:25,850

in from the entire galaxy every wish to

1964

01:18:31,360 --> 01:18:28,160

Sydney the skeptic black hole zone yeah

1965

01:18:34,000 --> 01:18:31,370

skeptical takes over knowledge on

1966

01:18:36,310 --> 01:18:34,010

skepticism ah yes now but dr. Carl is

1967

01:18:38,260 --> 01:18:36,320

he's a religion as far as a popularized

1968

01:18:39,970 --> 01:18:38,270

in science I think he's done a great job

1969

01:18:41,830 --> 01:18:39,980

for that there's a whole generation of

1970

01:18:44,560 --> 01:18:41,840

kids in Australia that have been raised

1971

01:18:46,690 --> 01:18:44,570

because he's been a guest on this sort

1972

01:18:49,000 --> 01:18:46,700

of cool radio station for so long triple

1973

01:18:50,830 --> 01:18:49,010

j yeah there's a whole generation of

1974

01:18:52,840 --> 01:18:50,840

kids that have kind of been inculcated

1975

01:18:55,030 --> 01:18:52,850

yet with this with such scientific

1976

01:18:56,350 --> 01:18:55,040

concepts and things I think it's a good

1977

01:18:58,090 --> 01:18:56,360

thing he's a top bloke and I'm sure

1978

01:19:00,790 --> 01:18:58,100

we'll have him as a guest again you know

1979

01:19:02,680 --> 01:19:00,800

next our next episode in two weeks time

1980

01:19:05,110 --> 01:19:02,690

we're going to very special guest indeed

1981

01:19:07,870 --> 01:19:05,120

a very famous researcher into the

1982

01:19:09,940 --> 01:19:07,880

paranormal investigator Ben Redford from

1983

01:19:11,800 --> 01:19:09,950

the United States been read for these

1984

01:19:13,480 --> 01:19:11,810

very famous but I haven't quite heard of

1985

01:19:15,340 --> 01:19:13,490

him bloodied it was very famous of the

1986

01:19:17,020 --> 01:19:15,350

United States he's a sort of guy who'll

1987

01:19:19,150 --> 01:19:17,030

go out in a wet suit and look for

1988

01:19:21,160 --> 01:19:19,160

monsters and like something oh also that

1989

01:19:23,620 --> 01:19:21,170

dedicated he's out there goes out and

1990

01:19:25,450 --> 01:19:23,630

looks at haunted houses and does real on

1991

01:19:26,740 --> 01:19:25,460

the spot investigate actually that's a

1992

01:19:28,990 --> 01:19:26,750

bit like you could you like to give

1993

01:19:31,180 --> 01:19:29,000

Nadal my house is amazing yeah they

1994

01:19:33,400 --> 01:19:31,190

never been scared never been bumped in

1995

01:19:35,210 --> 01:19:33,410

the night what can I say no

1996

01:19:36,740 --> 01:19:35,220

well that's going to be great so that's

1997

01:19:39,020 --> 01:19:36,750

next week skeptics are number seven

1998

01:19:41,360 --> 01:19:39,030

number seven in two weeks time in fact

1999

01:19:43,580 --> 01:19:41,370

and and lots of other things that are so

2000

01:19:45,470 --> 01:19:43,590

good I can't even tell you about but and

2001

01:19:47,330 --> 01:19:45,480

once again can I please thank you on

2002

01:19:49,250 --> 01:19:47,340

behalf of the skeptic zone and all the

2003

01:19:51,440 --> 01:19:49,260

team here for all the listeners that

2004

01:19:53,900 --> 01:19:51,450

have been dead devotedly downloading the

2005

01:19:55,220 --> 01:19:53,910

podcast each time and giving us lots of

2006

01:19:56,960 --> 01:19:55,230

good feedback and thank you to the

2007

01:19:58,730 --> 01:19:56,970

listeners to thank you for the feedback

2008

01:20:00,830 --> 01:19:58,740

it's in all the feedback we're getting

2009

01:20:02,540 --> 01:20:00,840

from Australians writing and saying we

2010

01:20:04,430 --> 01:20:02,550

really don't love the show because it's

2011

01:20:06,710 --> 01:20:04,440

Australian try the other skeptical

2012

01:20:08,570 --> 01:20:06,720

podcast they love to yeah great but

2013

01:20:10,640 --> 01:20:08,580

they're American find it we're the only

2014

01:20:12,410 --> 01:20:10,650

real Australian line yeah well you know

2015

01:20:14,300 --> 01:20:12,420

it's a big hemisphere down here with a

2016

01:20:16,190 --> 01:20:14,310

lot lot to cover and you'll be doing our

2017

01:20:17,600 --> 01:20:16,200

bit we're doing a bit well I'll see you

2018

01:20:19,370 --> 01:20:17,610

in a couple of weeks Stefan we can do a

2019

01:20:22,040 --> 01:20:19,380

bit all over looking forward to it and

2020

01:20:27,350 --> 01:20:22,050

guess what he comes a theme song oh wait

2021

01:20:31,640 --> 01:20:27,360

for it you've been listening to the

2022

01:20:34,910 --> 01:20:31,650

skeptic zone visit her website at wwc a

2023

01:20:49,830 --> 01:20:34,920

petting zoo TV for comments contacts and